



Borough of Swindon.

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# ANNUAL REPORT

OF THE

Medical Officer of Health,

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

FOR THE YEAR 1920.

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REPORT OF THE CHIEF SANITARY INSPECTOR,

FOR THE YEAR 1920.

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SWINDON,

W 4.—John Drew (Printers), Ltd., 51, Bridge Street.



## BOROUGH OF SWINDON.

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### Health Committee.

*Chairman*—Alderman A. H. LEE.

*Vice-Chairman*—Alderman MRS. E. C. NOBLE.

### Members.

THE MAYOR (Alderman E. JONES, J.P.)

Alderman H. MARTIN	Councillor W. G. TURK
„ J. POWELL	„ G. PARKHOUSE
„ C. A. PLAISTER, J.P.	„ G. W. BRUNGER
„ A. E. HARDING	„ W. E. REEVES
Councillor W. E. MORSE, J.P.	„ W. J. STROUD
„ A. H. WHEELER	„ T. C. NEWMAN
„ S. H. SMITH	„ C. C. PRICE
Councillor Mrs. E. A. TANNER	

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### Maternity and Child Welfare Sub-Committee.

*Chairman*—Alderman MRS. E. C. NOBLE.

### Members.

THE MAYOR (Alderman E. JONES, J.P.)

Alderman A. H. LEE	Councillor G. PARKHOUSE
„ H. MARTIN	„ W. E. REEVES
„ J. POWELL	„ Mrs. E. A. TANNER
„ C. A. PLAISTER, J.P.	Mrs. A. J. GILBERT
Councillor W. G. TURK	Mrs. ARNOLD-FORSTER
„ S. H. SMITH	Miss K. J. STEVENSON
„ W. J. STROUD	Mrs. RICHARDS
„ W. E. MORSE, J.P.	Mrs. E. SCHMITZ
„ T. C. NEWMAN	Miss I. F. MOORE

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*Town Clerk*—ROBERT HILTON, ESQ.



## BOROUGH OF SWINDON.

## PUBLIC HEALTH DEPARTMENT.

**Staff.**

*Medical Officer of Health, School Medical Officer, and Medical Superintendent of the Isolation Hospital.*

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

*Assistant Medical Officer of Health.*

ISABEL MITCHELL, B.Sc. M.B., Ch.B., D.P.H., A.I.C.

<i>Chief Sanitary Inspector</i>	....	....	§* A. E. BOTTOMLEY
<i>Assistant Sanitary Inspectors</i>	÷*F. H. BEAVIS &	*E. PARTRIDGE	
<i>Pupil Sanitary Inspector</i>	....	....	*F. R. G. SELWOOD
<i>Head Clerk</i>	....	....	W. FRANK MELLOR
<i>Assistant Clerks</i>	....	Miss I. M. DAVIS, Miss G. L. NORRIS	
<i>Health Visitors</i>	....	‡ Miss M. HANNA, ‡‡ Miss M. JOHNS	
<i>Disinfectors</i>	....	....	.... G. GREENAWAY
<i>Voluntary Helper at Maternity Centre</i>	....		Mrs. E. SCHMITZ

\* Certificate of the Royal Sanitary Institute.

§ Certificate of the Worshipful Company of Plumbers.

† 3 years' Certificate of Hospital training.

‡ Certificate of the Central Midwives Board.

|| Certificate of the Royal Sanitary Institute for Meat Inspection.

÷ Certificate in Building Construction.

*To the Chairman and Members of the Public Health Committee*

LADIES AND GENTLEMEN,

I have pleasure in presenting my Annual Report on the health conditions prevailing in the Borough of Swindon during the year 1920.

Dr. Whitley, late Medical Officer of Health, relinquished his appointment in September, 1920, in order to take up duty as Medical Officer to the County of Northumberland. He was succeeded by Dr. Brewer, who took up duty on the 11th October, 1920. During the intervening period the work was carried out by Dr. Mitchell, who was appointed Deputy Medical Officer of Health.

Nurse Pantoll, one of the Health Visitors, resigned her appointment on the 18th September, 1920, and her successor did not enter upon her duties until after the new year, 1921.

#### **NATURAL AND SOCIAL CONDITIONS OF THE DISTRICT.**

Population (Census 1911)	....	....	50,751
Registrar General's Estimate, 1920	...	....	53,580
Borough Collector's Estimate, based upon the number of inhabited houses, reckoning an average of 4.4 persons per house		....	55,070

It is probable that the actual population exceeds both these figures, as the number of inhabitants per house has probably increased above 4.4.

#### **PHYSICAL FEATURES AND GENERAL CHARACTER OF THE DISTRICT.**

Swindon, the largest town in Wiltshire, is situated in the North Eastern part of the County, 79 miles from London and 42 miles from Bristol. The town is situated on both sides of a hill which divides the Borough into two unequal parts. The town consists of two portions, an old and a new, which were formerly separate Urban Districts, and were incorporated in the year 1900. The two districts are now co-terminus. Swindon is an industrial town, the chief industry being the works of the Great Western Railway Company. There are also a tobacco factory and several small textile factories.

Certain points in connection with the situation and social status of Swindon have considerable bearing upon Public Health administration. The town is large compared with the generality of towns in the South West of England. It is self-contained, being surrounded on all sides by sparsely populated rural districts. Its chief industry is stationary. For these reasons the population itself is not liable to any great fluctuations.

The geological formation of Swindon, particularly its division into a high part situated on the Portland Limestone, and a greater part situated in a valley upon a thick bed of dense Kimmerage clay has an important bearing upon the question of the drainage of the town.

Swindon is a modern town, containing very few houses or buildings of earlier date than the middle of the last century, when the Great Western Railway Company transferred its works from Wootton Bassett to Swindon. The industries of the town have no particular bearing upon the subject of Public Health.

### **VITAL AND MORTALITY STATISTICS.**

The Registrar General has returned to the pre-war practice of supplying one figure only for the calculation of the Birth Rate and Death Rate, the figure being 53,580. This is a reduction of 97 from the figure supplied for the Birth Rate for 1919, and an increase of 2,053 upon the figure supplied for the calculation of the Death Rate of 1919.

#### **BIRTHS.**

The total number of Births belonging to the town for the year 1920 is 1246, an increase of 341 as compared with last year. Of these 642 were males, and 604 were females, an excess of males over females of 38, or 106 males to 100 females, the average generally being 105 males to 100 females.

Actually 1256 births were registered locally, but the difference between this figure and 1246 has been adjusted by the Registrar General. The Birth Rate was 23.25 as compared with 16.86 for the year 1919. The Birth Rate for England and Wales was 25.4 as compared with 18.5 for the year 1919, so that the Birth Rate of Swindon is still below that for the country.

Appended is a statement of the population and Birth Rate for each ward of the Borough for the past five years. These ward populations have been based upon estimates supplied from the books of the Borough Collector, and must be regarded merely as approximate indices, and not as strictly accurate figures.



TABLE 1.

Ward.	Estim- ated Popul- ation	No. of Births.					Birth Rate.				
		1920	1919	1918	1917	1916	1920	1919	1918	1917	1916
North ...	13310	336	268	234	223	299	25.2	19.4	17.3	16.7	23.5
South ...	7533	143	115	134	105	109	18.9	11.2	17.8	14.1	14.9
East ...	7902	179	106	120	119	139	22.6	14.5	15.1	15.1	17.7
West ...	10190	265	192	200	214	219	26.0	20.3	19.9	21.1	22.6
King's ...	9135	168	128	137	127	149	18.3	15.8	14.8	13.9	16.7
Queen's	7000	165	124	101	89	107	23.5	16.1	14.1	12.7	16.0

The Birth Rate for the Greater Towns for 1920 was 26.2, so that the Birth Rate for Swindon was some three per thousand below the average for towns of similar size.

### ILLEGITIMATE BIRTHS.

49 illegitimate births were registered, or 3.9% of the total, as compared with 63, or 6.9% for the year 1919.

Appended are the figures for illegitimacy for the years 1913-1920.

TABLE 2.

Statement showing the figures for illegitimacy for the years 1913-1920.

Year.	1913	1914	1915	1916	1917	1918	1919	1920
No.	39	35	36	44	57	54	63	49
Percentage of Births.	3.18	2.93	3.4	4.2	6.4	5.7	6.9	3.9

The percentage of illegitimate births for 1920 is therefore not much more than half of what it was for the previous year. This is most satisfactory, for though the illegitimate Birth Rate cannot be considered as a just method of estimating public morality it is certainly an indication of some importance, and the lowering of the rate suggests that the morals of the population are recovering very rapidly from the elasticity engendered by the late war.

## DEATHS.

The total number of deaths registered in the Borough for the year 1920 was 567, against 559 for the year 1919. 17 of these were of persons temporarily resident here, whilst 74 deaths of Swindonians occurred outside the area, giving a net total of 624 deaths amongst persons properly belonging to the town, which yields a Death Rate of 11.64, as compared with 11.97 for the year 1919. The Death Rate for England and Wales was 12.4, as against 13.8 for the year 1919. The figure for Swindon may be regarded as very satisfactory.

The following statement shows the mortality statistics for each ward in the Borough for the last five years, and the same remarks apply to these figures as to those quoted for the Birth Rate.

TABLE 3.

Statement showing the Mortality Statistics for each Ward in the Borough for the last five years.

Ward.	Estima- ted Popula- tion	No. of Deaths.					Death Rate.				
		1920	1919	1918	1917	1916	1920	1919	1918	1917	1916
North	13310	134	109	169	150	118	10.0	7.9	12.5	11.2	9.2
South	7533	86	81	108	93	57	11.4	7.9	14.3	12.5	7.7
East	7902	92	88	101	66	77	11.3	12.1	12.7	8.4	9.8
West	10190	80	90	144	101	95	7.8	9.5	14.3	9.9	9.8
King's	9135	79	106	84	76	102	8.6	13.0	9.1	8.3	11.3
Queen's	7000	96	85	110	95	75	13.7	11.0	15.4	13.6	11.2

## POOR LAW RELIEF.

The Borough is situated in the Swindon and Highworth Union.  
Poor Law Relief granted:—

31st March, 1920—31st March, 1921 ..... £7255

31st March, 1919—31st March, 1920 ..... £9151

These amounts represent payments made by the Relieving Officers to the outdoor poor only.

## HOSPITAL ACCOMMODATION

There is hospital accommodation for 32 patients in the Victoria Hospital. There is also another hospital belonging to the Great Western Railway Medical Fund Society, which has accommodation for about 12 patients.



## SANITARY CIRCUMSTANCES OF THE DISTRICT

### WATER SUPPLY

The water supply of the Borough is derived from two sources, from a deep well at Ogbourne and from a series of adits driven into the hillsides at Wroughton. The water supply is constant. The supply is not at present adequate for the requirements of the Borough, during all seasons, and under all conditions. During wet and normal years there is no trouble in maintaining a constant supply, but during dry years the supply in the higher parts of the town is inclined to fail. The deficiency in the water supply will be remedied by a further supply from Ogbourne when the works now in hand are completed.

### SOURCES OF WATER SUPPLY AND POSSIBILITIES OF CONTAMINATION.

#### 1. OGBOURNE

The water supply from Ogbourne is derived from a deep well in the lower chalk formation. This supply will be considerably augmented by adits which are at present being driven into the hillsides. The present minimum output from Ogbourne is 500,000 gallons per day. When the new works are completed an estimated supply of 250,000 gallons extra per day will be obtained. There is hope that this estimated amount will be exceeded.

### QUALITY OF THE WATER

Appended is the latest analysis of the water at Ogbourne, taken at its source on the 13th November, 1920. This shows a water of considerable chemical purity and freedom from micro-organisms, the only objection to it being that it is hard. A scrutiny of the various samples taken from time to time shows that the composition of the water is not liable to any appreciable variation.

When the camp at Chisledon was instituted it was feared that the Ogbourne water supply might become contaminated from the sewage disposal of the camp. Analyses taken at the time when the camp was in full occupation demonstrate that the fears of pollution from this source were groundless, and this possible source of pollution has now become remote.

The water at Ogbourne is chlorinated at its source. This is a very cheap and satisfactory precaution, though the analyses of the water show that the process is not absolutely necessary. The water from Ogbourne is pumped into a covered reservoir at Overtown,

which has a storage capacity of 500,000 gallons. It then passes by gravitation through the trunk mains to the town.

Analysis of the water at Ogbourne, taken at its source, before chlorination, on the 13th November, 1920.

Free Ammonia	....	....	Absent
Albuminoid Ammonia	....	....	.0010 grains per gall.
Oxygen, abstracted from Potassium perman- ganate acting 4 hrs. at 80F.	....	....	.0107   ,,   ,,
Total solid matter in solution	....	....	28.8   ,,   ,,
Nitrogen as Nitrites	....	....	Absent
,,       ,,   Nitrates	....	....	Absent
Lead, Copper and Iron	....	....	Absent
Chlorine	....	....	.7 grains per gallon
Alkalinity, expressed as Chalk	....	....	21.7   ,,   ,,
Hardness, Temporary	....	....	19.2 degrees
,,       Permanent	....	....	3.0   ,,
,,       Total	....	....	22.2   ,,
Clearness	....	....	Clear
Colour	....	....	Colourless
Odour	....	....	Nil
Micro-organisms growing on nutrient gelatine	....	....	9 per cubic centimetre
Micro-organisms growing on nutrient agar at blood heat	....	....	Nil.
Bacillus Coli Communis	....	....	Absent in 100 cubic centimetres.
			(Signed) W. R. BIRD, F.C.S.
13th November, 1920.			Analyst.

## 2. WROUGHTON.

The water at Wroughton is obtained from adits driven into the hillside. Its minimum output is 250,000 gallons per day. Appended is the latest analysis of this water taken at its source.

Analysis of the water at Wroughton, taken at its source, before chlorination on the 13th November, 1920.

Free Ammonia	....	....	Absent
Albuminoid Ammonia	....	....	.0024 grains per gallon
Oxygen, abstracted from Potassium perman- ganate acting 4 hrs. at 80F.	....	....	.0235   ,,   ,,
Total solid matter in solution	....	....	32.1   ,,   ,,

Nitrogen and Nitrites	....	....	Absent
„ „ Nitrates	....	....	.14 „ „
Lead, Copper and Iron	....	....	Absent
Chlorine in Chlorides	....	....	.7 grains per gallon
Alkalinity, expressed as chalk	....	....	22.0 „ „
Hardness, Temporary	....	....	19.5 degrees
„ Permanent	....	....	4.5 „
„ Total	....	....	24.0 „
Clearness	....	....	Clear
Colour	....	....	Colourless
Odour	....	....	Nil
Micro-organisms growing on nutrient gelatine	....	....	56 per cubic centimetre
Micro-organisms growing on nutrient agar at blood heat	....	....	12 „ „
Organisms of the Coli Group	....	....	Present in 50 cubic centimetres.

(Signed) W. R. BIRD, F.C.S.

Analyst.

It will be seen that this water is less pure than that from Ogbourne, and the presence of bacilli of the coli group is not satisfactory. The analyses of samples taken at different dates show that this water is liable to variation, so one must conclude that it is not altogether a reliable supply. This water is chlorinated, and after chlorination is free from bacilli of the coli group.

Samples of water taken in the town by the Medical Officer of Health demonstrate that the process of chlorination frees the water supply from deleterious organisms.

No cases of water-borne disease occurred in the Borough during 1920, nor have any occurred for some years past.

The question whether the hardness of the water supply has any deleterious influence upon the health of the inhabitants of Swindon is under the consideration of the Medical Officer of Health. It may be mentioned here that though Goitre in a mild form is very common amongst the children of Swindon, it does not appear that the condition persists commonly, and it is extremely doubtful whether the water supply has anything to do with the matter.



## RIVERS AND STREAMS.

The only natural watercourses running through Swindon are the River Ray, which forms the Western Boundary of the Borough and the River Cole, a small stream, which flows on the Eastern Side. The Ray receives the effluent from the Borough Sewage Works at Rodbourne, and as this effluent does not reach the level of purity required by the Thames Conservators, one must presume that the River Ray is polluted. The River Ray is small and rapid, and eventually flows into the Thames. No nuisance from its pollution is noticed in the town, neither have any complaints regarding it been received by the Medical Officer of Health.

Far more important is the artificial watercourse formed by the Wilts and Berks Canal which flows right through the centre of Swindon, dividing the town into two more or less equal parts. This canal is filled up in places, and forms a series of stagmont lakes which are the cause of a good deal of trouble and offence. A scheme for dealing with this canal is at present before the Council. The difficulties of obtaining a satisfactory solution to the problem are admittedly great, but the time has come when the canal in its course through Swindon must be abolished.

## DRAINAGE AND SEWERAGE

For the purpose of drainage, Swindon is divided into two unequal parts by a hill. That part which is South of the hill and forms what was formerly the Urban District of Old Swindon, is drained to a sewage works at Broome Farm. At Broome the sewage on arrival is mixed with lime and treated in precipitation tanks, and afterwards led on to double contact beds and finally submitted to land filtration. Though this method of treatment of sewage must be considered obsolete, the plant performs its duties satisfactorily. The amount of sewage dealt with at these works is not great, and the effluent obtained has satisfied the Thames Conservators.

The sewage farm at Rodbourne, which receives the sewage from the greater part of the town, is not satisfactory. As a matter of fact, the town has outgrown its drainage system. Consideration of the draining and disposal of the sewage is at present before the Council, and considerable progress has been made in the negotiations for dealing with the subject. The main sewers are not of sufficient capacity and are not sufficiently numerous, so that in times of storm the lower parts of the town are liable to flooding.

As regards the sewage works at Rodbourne, the crude sewage is conveyed by an open conduit, and is screened. It is then submitted

to a precipitation process by means of Sulphate of Iron and Lime, and subsequently treated in precipitation tanks, contact beds, and finally land filtration. This method of treating sewage is not the most satisfactory. The works are old, and the soil, which is a heavy Kimmerage Clay, is not suitable for land filtration. Consequently the effluent is unsatisfactory and does not satisfy the Thames Conservators. The Council have before them a scheme for the complete re-organisation of this sewage works prepared by Mr. G. Midgley Taylor, and the scheme will be carried into execution as soon as financial considerations will permit.

### CLOSET ACCOMMODATION

The water carriage system obtains throughout the Borough, and there are very few privies of any kind still left in the Borough, and such as do remain are far removed from densely populated districts. There are, however, some 500 water closets without flushing apparatus. It is hoped that these will be dealt with in the future. Though it is possible to keep a water closet clean and in good order where no means of flushing are provided, it must be admitted that generally speaking a water closet without a flushing cistern either is a nuisance or is very prone to become such. It is hoped that before long all such water closets will be provided with flushing tanks, but it is obvious that it will take some time to effect this improvement.

### SCAVENGING.

There are no ashpits in the Borough. The Swindon Corporation Act, Sect. 37, requires that dwelling houses be provided with galvanised iron dustbins of such size and construction as may be approved by the Corporation. Whether this section of the Act has ever been put into force, I am not able to discover. The Act is still in existence, the dustbins are not, and there are very few houses indeed possessing proper receptacles for house refuse. Old baths, pails and tins are the most satisfactory substitutes for dustbins which are met with. Wooden and cardboard boxes in every stage of repair and disrepair are the commonest substitutes, whilst in some cases even these are lacking, and the house refuse is deposited outside the house in old newspapers. On a windy day considerable nuisance arises from the dispersal of the household rubbish, and a great danger to the milk supply is engendered. Now that the prices of sanitary dustbins have become reasonable, and the articles are obtainable in quantity, it would seem that the time has come to enforce the Act. Sanitary dustbins which are actually, as well as theoretically, portable and of a convenient size for the usual type of house in Swindon are now procurable at about 8/- to 10/- each, and I might



suggest to the householders of Swindon that the outlay of 10/- on a sanitary dustbin would save considerably more than its cost in doctor's bills alone.

The scavenging of the Borough is done by the Borough Surveyor's Department. Household refuse is collected from every part of the town twice a week and conveyed in covered carts. The collection of refuse is carried out regularly and thoroughly satisfactorily.

### DISPOSAL OF HOUSE REFUSE

The refuse of the town is deposited on tips. One tip situated near Broome Sewage Works is sufficiently far from the centre of population not to cause any nuisance. The remaining tips are situated too near the town and give rise to a considerable amount of trouble and complaint. A better method of disposal of the town's refuse is to be desired.

Swindon is very well supplied with allotments. This is all to the good of the inhabitants as regards the supply of fresh produce and a healthy and invigorating pastime, but it produces one drawback in that it causes a large amount of organic house refuse. But the allotments themselves might be utilised for the solution of the problem of refuse disposal; for all organic house refuse could be utilised for manuring the allotments; so producing a double advantage of improving the crops and relieving the Corporation of the difficulty of dealing with decaying organic matter.

### SANITARY INSPECTION OF THE DISTRICT

The Report of the Inspector of Nuisances appears in the appendix.

During the year under review considerable difficulty was experienced in the Sanitary Department owing to accumulations of work which had had to be suspended or curtailed during the years of hostilities. Also difficulties arose due to the great cost of material and the difficulty in obtaining skilled labour. Towards the end of the year this last difficulty showed signs of abating, and there is reason to believe that in the year 1921 there will be no insuperable difficulty in getting repairs carried out. The cost of material and of labour will in all probability remain high for some years, and will be used as an excuse for not putting necessary repairs in hand, but I think that the exercise of a little judicious firmness will prevent this excuse from being raised seriously.



## PREMISES AND OCCUPATIONS WHICH CAN BE CONTROLLED BY BY-LAWS OR REGULATIONS.

### OFFENSIVE TRADES.

There is one offensive trade in the Borough. The premises utilised for the purpose are satisfactory and the business is carried out in a manner which gives no cause for complaint. The premises are inspected every week, and so far we have never had occasion to find fault with the premises or the way in which the business is conducted.

### HOUSES LET IN LODGINGS.

There are a few such in the Borough. The inspection of these is somewhat spasmodic. They are generally fairly satisfactory.

### SCHOOLS.

A more detailed account of the sanitary condition of the schools appears in the Report of the School Medical Officer. Generally speaking, the sanitary condition of the schools is passable, though not in all respects satisfactory.

The medical inspection and treatment of school children is carried out very thoroughly in the Borough, and the means of preventing the spread of infectious disease are satisfactory. Closure of schools for infectious disease was not resorted to during 1920.

## FOOD.

### (a) MILK SUPPLY

The milk supply of Swindon is good and sufficient.

The Sale of Foods and Drugs Acts are carried out by the Wilts County Council, and from their reports it appears that 42 samples of milk were taken in Swindon during the year, and that 39 samples were genuine.

It must be admitted, however, that the number of samples taken by the County Council is ridiculously small. The milk supply in Swindon is generally good in quality, fresh and moderately clean.

5 samples of milk were taken and examined at Bristol University for the presence of Tubercle bacilli. In no case was the presence of the Tubercle bacillus demonstrated.

## MILK (MOTHERS AND CHILDREN) ORDER 1919.

A review of the work done under this heading appears at a later stage of the Report.

## (b) MEAT.

The details of meat inspection appear in the Report of the Sanitary Inspector.

On the removal of the control of meat of the 5th July, 1920, there occurred a very great drop in the amount of diseased and unsound meat that was brought to the notice of the Sanitary Department. This matter, which became apparent immediately, required investigation. It was, of course, unlikely that the removal of control could have any direct effect upon the health and condition of beasts submitted to slaughter. Several explanations of the great drop in the amount of meat condemned were feasible, and all were rigidly investigated. It was thought possible; first, that unsound beasts had been slaughtered in the town surreptitiously and so escaped detection. The rigidity of the meat inspection in this town, and the way it is carried out render it practically certain that such surreptitious slaughtering of beasts could not occur without detection. Secondly: it was possible that unsound beasts were slaughtered outside the Borough and brought in for consumption here. A very rigid inspection of the butchers' shops and the meat exposed for sale brought out the fact that the meat was uniformly of excellent quality, and left me perfectly convinced that no large amount of doubtful meat was finding its way into the town. A third explanation, and I believe a correct one, was that doubtful beasts were no longer slaughtered with a view that they might be passed for human consumption. Still another explanation is that doubtful beasts are no longer brought into Swindon, where inspection is very thoroughly carried out, but taken to other districts, where, owing to local circumstances, control cannot be so efficient.

On the cessation of control the butchers of the town clubbed together to form a fund for compensation for meat condemned by the Sanitary Inspectors. This is an admirable arrangement. It practically places the control of the meat supply in the hands of those who have greatest technical knowledge, subject to the control of the Public Health Department: it heightens the technical knowledge of the butchers by encouraging them only to buy animals which are in good condition and probably sound, and as it throws the loss due to condemnation upon the trade as a whole and not upon the individuals it encourages the individual butchers in the interests of their trade to help the Sanitary Department by

calling its attention to all diseased and unsound carcasses. It seems to me, however, that the necessary expenses involved in condemning such expensive foodstuffs should be borne absolutely by the public consumer. Unfortunately this pooling arrangement does not apply to the pork butchers, and condemned pig carcasses mean a dead loss, either to the butcher or to the farmer from whom the condemned beast was purchased.

The following is a statement of the Registered and Licenced Slaughterhouses in use in the Borough at the dates mentioned.

		In 1914	In January 1920.	In Dec. 1920.
Registered	....	14	9	9
Licensed	....	12	10	10
TOTAL		26	19	19

### (c) OTHER FOODS

An inspection of all foodstuffs, both in the shops and the town market, is carried out thoroughly. Possibly in consequence of this thoroughness, the amount of unsound food which finds its way into the town and eventually into our hands is comparatively small. As all the Public Health Amending Acts are in force within the Borough, our powers for dealing with unsound food are ample.

### (d) FOOD POISONING.

No cases of food poisoning were reported to the Medical Officer of Health during the year 1920.

## PREVALENCE OF AND CONTROL OVER INFECTIOUS DISEASES.

### SCARLET FEVER.

37 cases of Scarlet Fever occurred in 1920 as against 58 for the year 1919, and 96 in 1918. The Attack Rate, calculated upon the figure 53,580, is .69 per 1,000 of population, as against 1.08 for 1919.

Swindon escaped the epidemic of Scarlet Fever which was general in the Eastern parts of the country in 1920. The few cases that occurred in the Borough were exceedingly mild, most of them being quite trivial. There is evidence that a considerable number of cases of Scarlet Fever escaped notification. This is not surprising when the mild character of the disease is taken into account.

33 cases, or 89.1% of the total, were removed to hospital, as against 56, or 96.5% for the year 1919.

No deaths occurred from the disease.



TABLE 5.

Statement showing number of cases of Scarlet Fever, the percentages of removals to Hospital, and Attack Rates, for the years 1916-1920.

Year	No. of Cases.	No. removed to Hospital.	Percentage removed.	Attack Rate.
1916	347	308	88%	6.91
1917	250	238	95.2%	4.8
1918	96	93	93.8%	1.9
1919	58	56	96.5%	1.08
1920	37	33	89.1%	.69

## DIPHTHERIA.

112 cases of Diphtheria occurred in 1920, as against 55 for the year 1919, and 96 in 1918. The Attack Rate, calculated upon the figure 53,580 is 2.9, as against 1.02 for the year 1919.

112 cases, or 100% were removed to hospital, as against 54, or 98.1% for the year 1919.

There were 15 deaths from Diphtheria, giving a Death Rate of 0.38 and a percentage case mortality of 13.3 against 9 deaths, giving a Death Rate of 0.16 and a percentage case mortality of 16.3 in 1919.

TABLE 6.

Statement showing the number of cases of Diphtheria, the percentage of removals to Hospital, and Attack Rates for the years 1916-1920.

Year	No. of Cases.	No. removed to Hospital	Percentage removed	Attack Rate.
1916	83	83	100%	1.65
1917	118	115	97.4%	2.3
1918	96	94	97.9%	1.9
1919	55	54	98.1%	1.02
1920	112	112	100%	2.9

All the above statistics are based upon the figures supplied by the Registrar General for the estimation of the Death Rate.

Very few cases of Diphtheria escaped notification, and as will be seen from the table every case notified was treated in hospital.

The nature of the two epidemics which occurred respectively in October and November renders it unlikely that there were any mild or doubtful cases which had not come under medical supervision. All the cases notified were extremely severe, and the large number of swabs taken from contacts shows that, with two exceptions, every person who harboured the bacillus developed the disease in a severe form.

An outbreak of Diphtheria, characterized by the extreme severity of its type, occurred in the Borough during the latter half of October, 1920.

The first batch of cases, four boys, developed on the 15th, 16th, 16th, and 17th of October, and were admitted into hospital on the 17th, 17th, 20th and 21st respectively. All these cases were of the severest form of Diphtheria known to us, and by the time they were notified and removed, they were beyond all hope of cure. They died respectively on the 21st, 22nd, 22nd and 23rd, October.

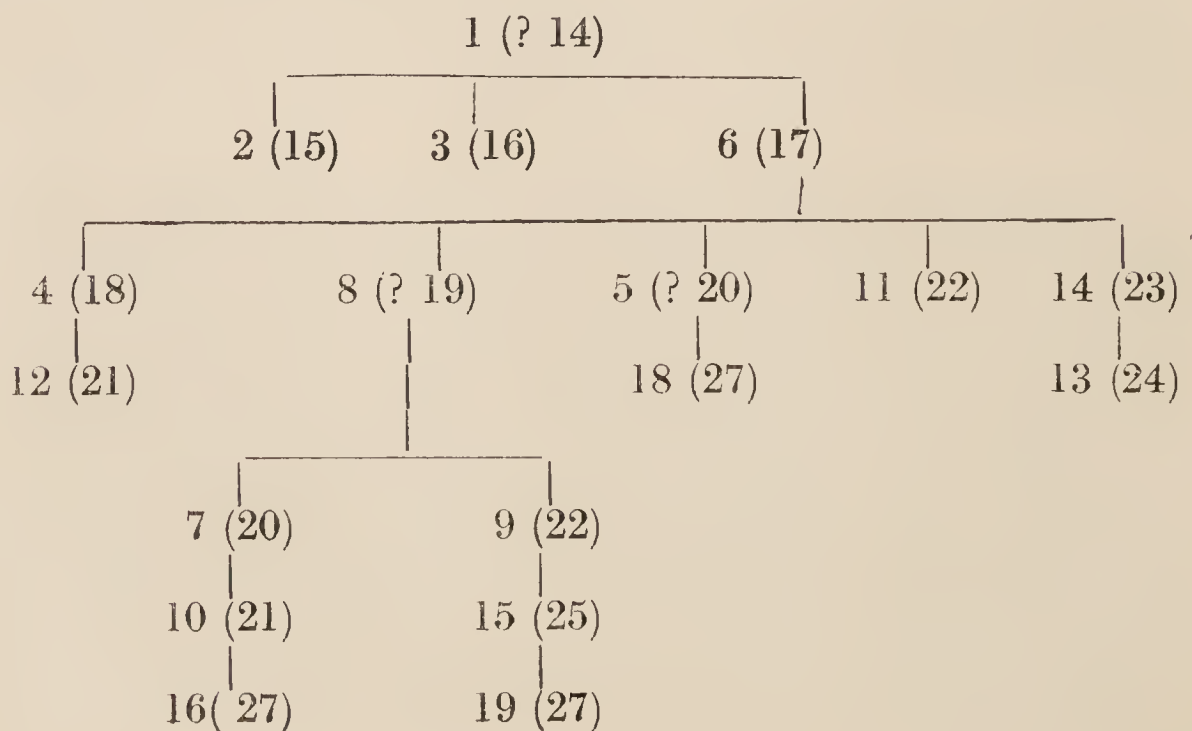
There is clear evidence that these four boys were together on the 14th October. They were all scholars of College Street School, but there is reason to believe that the infection did not occur in the school. There is a popular report that the four boys shared an apple between them, but as this fact, if it is a fact, is wrapped in obscurity, and the accounts of it do not tally with each other, little reliance is placed upon it. On the other hand the evidence of the boys themselves is perfectly clear that they were together on the 14th October.

A critical examination of the facts, renders it practically certain that cases 2, 3 and 6, were directly infected by case 1. This evidence is as follows:—cases 2, 3 and 6, developed with extreme abruptness, and were stricken down immediately. Case 1, on the other hand, had been ailing for some time, and though he did not become alarmingly ill until the 16th, he was not well on the 14th. Moreover, he died on the 22nd with the typical symptoms of death on the ninth day of the disease, and from this alone, the date of onset may be fixed on the 13th, or early on the 14th October.

An outbreak of such virulence naturally called for prompt measures for its suppression. The incubation period of Diphtheria being sometimes as long as eight days, there was no possibility of suppressing it before October 29th, 1920, and only vigorous measures would be likely to suppress it, in so short a time. Case 1 might have infected others prior to October 14th, but so far as can be ascertained, he did not do so. Cases 2 and 3, owing to the virulence of their attacks, could scarcely have infected anybody, except those who were in immediate contact with them between the beginning of the attack and their removal to hospital. It was possible, by swabbing all contacts to ascertain that they did not give rise to further cases. With case 6 the conditions were different. Though intensely ill, he was kept at home until October 21st, and on that day he was taken in a tramcar to a surgery, and remained there until removed to hospital. He lived one day only in hospital, but for five days previous to his admission, he was spreading the disease in the Borough.

Nearly all the cases which occurred subsequently can be traced to this source, and those cases where direct contact cannot be proved, probably owe their infection to this source. He first infected his sister (case 14) who for some reason was not removed to hospital until she had been ill for three days, which caused her to lose her life. She was the only case, apart from the first four, to end fatally.

The method of spread of the epidemic will be best seen by the following diagram. The numbers in brackets are the dates of the first symptoms in each case; the first numbers are the code numbers of the individual cases.





Briefly	2 cases were removed to Hospital of the	17th October
2	„ „ „	20th „
4	„ „ „	21st „
3	„ „ „	22nd „
1	„ „ „	24th „
2	„ „ „	25th „
1	„ „ „	26th „
1	„ „ „	27th „
1	„ „ „	29th „
1	„ „ „	1st November

or 18 cases in all.

The extraordinary violence of the infection at its start, and the rapidity with which its virulence abated are remarkable.

The fact that with two exceptions direct infection from one patient to another was proved, and that in the two exceptions, one is highly probable and the other probable, is of interest in proving how Diphtheria spreads.

The fact that the epidemic was suppressed in twelve days proves that the methods adopted were satisfactory, but they were not ideal for two reasons.—

1. Shortness of Staff compelled me to abandon certain lines of investigation which were advisable.
2. The method of having the laboratory work of the Borough done outside the town causes considerable delay in knowing the result of swab cultures.

I hope at some future time, the Council may see its way to have the clinical bacteriological work done in the Borough, and so save the loss of time and expenses involved in the present arrangements.

It was impossible to discover how the first case contracted Diphtheria. In a Borough of this size, with such freedom of communication, it is only exceptionally that first cases of Diphtheria can be traced with any certainty. All possible sources of infection which might be operating within the Borough were investigated. Besides such lines of enquiry as suggested themselves to me, I investigated several trails supplied by various persons interested in the matter. The Veterinary Inspector informed me that there were some cows suffering from sore nipples on a farm in the vicinity, and that the milk of these cows may have been the cause of the outbreak. But it was proved that none of the children in the first batch could have partaken of this milk.

## STATISTICS OF THE OUTBREAK

Total Number of Notifications	....	....	....	18
Number of cases removed to Hospital	....	....	....	18
Number of cases ending fatally	....	....	....	5
No. attending College Street School	....	....	....	8
„ „ Clifton Street School	....	....	....	2
„ employed at Tobacco Factory	....	....	....	3
„ attending Lethbridge Road School	....	....	....	1
„ below School age	....	....	....	3
„ of adult patients	....	....	....	1
„ of males	....	....	....	11
„ of females	....	....	....	7

Ages of fatal cases, 8, 6, 7, 7, 3 years.

Date of commencement of Epidemic. 14th October, 1920.

„ „ cessation of Epidemic. 27th October, 1920.

No. of contacts swabbed. .... 92

A second outbreak of Diphtheria developed in the middle of November. Between the 1st November and the 18th November, eight cases were notified, but of these 4 proved not to be true Diphtheria. From the 19th November to the 31st December, 22 cases of Diphtheria were notified and removed to hospital for treatment. Of these 7 died. This second outbreak differed from the first in that it sprang up in different parts of the Borough, and it was not possible to trace its course with that same precision as had obtained in the first outbreak. The type of the disease, however, remained the same. The main characteristics of both outbreaks were the extreme severity of the symptoms; the high death rate, the large proportion of haemorrhagic cases, the absence of any laryngeal cases, the age of attack, which is tabulated in the foregoing column, and the remarkable freedom of contacts from harbouring the organism, only 2 cases out of 303 proving positive. It was exceedingly difficult to get the second epidemic under control until a systematic swabbing of College Street School was instituted. As a result of this swabbing one child and one teacher were found harbouring the organism, and on the isolation of these two cases the epidemic died down. It may be mentioned that both these positive contacts remained quite well, and their throats were free from the Diphtheria bacillus in the course of a few days, so that neither of them can be considered as a carrier.

The following statistics of the cases of Diphtheria which occurred in the two epidemics are of interest:—

Total number of cases notified	....	49
Total number of cases removed to hospital		49
Number of cases in which the diagnosis of Diphtheria was withdrawn	....	8
Number of Haemorrhagic cases	....	10
Number of severe toxic cases	....	15
Number of mild cases	....	5
Number of average cases	....	11

Number of Deaths—

From early Cardiac Failure	....	8
From late Cardiac Failure	....	2
From Bulbar Paralysis	....	2

Table showing the ages of children attacked.

TABLE 7.

Years	Cases	No. of deaths
0-3 years	None	None
3	3	1
4	3	1
5	2	—
6	4	2
7	9	5
8	5	2
9	3	1
10	2	—
11	4	—
12	1	—
13	1	—
16	2	—
20	1	—
30	1	—

21 of the cases were scholars at College Street School.

The medical practitioners of Swindon quickly became alive to the severity of the epidemic of Diphtheria, and rendered me assistance by the extreme promptitude with which they had cases removed to hospital. The public also were made aware of the condition of things, and on the whole sought medical advice in all



cases of suspicion with commendable promptitude, only a small percentage of the cases being brought under treatment at a late stage of the disease. Unfortunately the cases were of such extreme violence that twenty four hours delay was often sufficient to convert a curable into a hopeless case.

There were no return cases of Diphtheria or Scarlet Fever during the year.

### ENTERIC FEVER.

1 Swindonian died of Enteric Fever contracted in an institution outside the Borough. No cases occurred in the Borough, as against none in 1919.

### CEREBRO-SPINAL MENINGITIS.

No cases occurred as against none in 1919.

### ACUTE POLIOMYELITIS.

No cases occurred as against none in 1919. One death is recorded as being due to Infantile Paralysis.

### SMALL POX.

No cases occurred as against none in 1919.

### PUERPERAL FEVER.

5 cases were notified as against none in 1919. Four deaths occurred from the disease.

### ERYSIPELAS.

18 cases were notified as against 17 in 1919. Two deaths resulted from the disease.

### OPHTHALMIA NEONATORUM.

12 cases were notified as against 5 in 1919.

The number of cases of Ophthalmia Neonatorum has shown a tendency to increase in late years. It is probable that this increase is due more to better notification than to an actual increase in the number of cases of the disease.

## PNEUMONIA.

43 cases, with 41 deaths occurred in 1920, as against 53 cases and 45 deaths in 1919.

These figures would suggest that Pneumonia had a case mortality of 90%, which is, of course, absurd, its case mortality being probably somewhere about 15%. The anomaly of the figures is due to the difficulties attending the notification of this disease. Some practitioners were until recently unaware of the Order of the 7th January, 1919; many practitioners have difficulty in interpreting this Order. Pneumonia occurs in such divers forms that there is some obscurity in the minds of practitioners as to which cases require notification. Moreover, Pneumonia is perhaps the commonest termination to many chronic diseases, and these cases are seldom notified except on the death certificate. The main value to the Medical Officer of Health of the notification of Pneumonia is that it calls his attention to the severity of epidemics of Measles, Whooping Cough and Influenza, as these diseases are not in themselves notifiable.

## MALARIA.

4 cases of Malaria were notified as against 20 in 1919. All the cases were of Continental origin.

## DYSENTERY.

No cases were notified as against 1 in 1919.

## ENCEPHALITIS LETHARGICA.

1 case was notified as against none in 1919. 1 death occurred from the disease.

## TRENCH FEVER.

No cases were notified as against none in 1919.

Bacteriological aids to diagnosis are always used where necessary and the discovery of contacts is a feature to which special attention is given in this Borough. The Borough is served by an Isolation Hospital under the control of a separate Board. This Hospital can accommodate over 200 patients. It is well staffed, modern, and in every way satisfactory.

No vaccinations were performed by the Medical Officer of Health under the Public Health (Small-pox Prevention) Regulations, 1917.

Non-notifiable acute infectious diseases were not prevalent in the Borough during 1920. 4 deaths from Whooping Cough, 1 from Measles and 2 from Influenza occurred during the year 1920. There were no cases of Anthrax or Rabies.

### TUBERCULOSIS.

Appended is a comparative statement showing the number of notifications received of the various forms of Tuberculosis and the Death Rates resulting from each form of the disease for the years 1914-1920.

TABLE 8.

	1920	1919	1918	1917	1916	1915	1914
No. of cases notified (all forms)	97	73	116	129	132	140	160
Pulmonary Tuberculosis	72	51	86	102	95	86	101
Deaths from Pulm. Tuberculosis	55	44	66	60	48	51	53
Deaths from Tuber. Meningitis	8	8	11	8	10	10	3
Deaths from other forms of the disease	6	8	11	10	10	8	1
Total deaths from Tuberculosis	69	60	88	78	68	69	57
General Death Rate for all forms of Tuberculosis	1.28	1.16	1.74	1.5	1.3	1.32	1.07
Death Rate for Pul. Tuberculosis	1.02	0.85	1.30	1.15	0.95	0.98	1.0

Probably all cases of Pulmonary Tuberculosis get notified at some time or another, but the chronic nature of the disease renders notification not altogether satisfactory. Many practitioners will be in doubt as to whether a given case has been notified, and if so, when and where. As regards the other cases of Tuberculosis difficulties arise in regard to the more chronic forms. It is difficult to say at what stage of the tubercular process a case should be notified. In the case of Tuberculous Glands the question whether the case should or should not be notified is always a very nice point. In the case of Tuberculous Meningitis, the rapidity of the disease often results in the first notification being that of the death certificate.

### TUBERCULOSIS SHELTERS.

Three of the four Corporation Shelters were used fairly regularly throughout the year.



## WINSLEY SANATORIUM.

7 cases were admitted to Winsley Sanatorium, the average length of stay being 91 days. The reports on the cases, when discharged, were as follows :—

Improved	....	....	....	4 cases
----------	------	------	------	---------

Condition unchanged	....	....	....	1 case
---------------------	------	------	------	--------

No sign of active disease and fit for work				2 cases
--	--	--	--	---------

2 patients occupied the Corporation beds at the Sanatorium at the 31st December, 1920.

## VENEREAL DISEASE.

The control of Venereal Disease rests with the Wilts County Council. The County Council is about to inaugurate a Venereal Clinic in Swindon. At the present time the Medical Officer of Health of the Borough is not in a position to pass an opinion upon the prevalence of Venereal Disease, as he does not come into contact with that section of the community in which Venereal Disease may be expected to be most prevalent. Amongst children and mothers who do come within his perview, the amount of Venereal Disease recognised is small

## CANCER.

68 deaths occurred from this disease, as compared with 65 in 1919. The Death Rate per 1,000 of population is 1.26 as compared with 1.26 for the year 1919

TABLE 9.  
TABLE SHEWING THE DISTRIBUTION OF INFECTIOUS DISEASE OVER VARIOUS WARDS OF THE TOWN  
DURING THE YEAR 1920.

DISEASE.	WARD.						
	North.	South.	East.	West.	King's.	Queen's.	Total.
Diphtheria	19	11	20	10	29	23	112
Erysipelas	5	2	2	6	1	2	18
Scarlet Fever	11	3	1	9	11	2	37
Cerebro-Spinal Meningitis	—	—	—	—	—	—	—
Acute Poliomyelitis	—	—	—	—	—	—	—
Ophthalmia Neonatorum	5	—	1	3	1	2	12
Pulmonary Tuberculosis	21	9	9	11	13	9	72
Other forms of Tuberculosis	12	6	—	4	2	1	25
Pneumonia	8	5	6	12	8	4	43
Malaria	2	1	1	—	—	—	4
Dysentery	—	—	—	—	—	—	—
Puerperal Fever	—	—	—	4	1	—	5
Encephalitis Lethargica	1	—	—	—	—	—	1
TOTALS	84	37	40	59	66	43	329

## MATERNITY AND CHILD WELFARE.

The objects of this most important Department of Public Health Administration are, attention to the health and well-being of prospective mothers: diminution of the dangers and discomforts of pregnancy and guarding against the risks of delivery, cherishing the life of the new-born infant and the health of the nursing mother, and safeguarding the child through the first years of life.

### PRE-NATAL WORK.

Arrangements are made at the Clinic for pre-natal work, where pregnant women can come for advice regarding their condition and any abnormalities which exist or are to be feared. Some progress was made in this work during 1920 and means are being adopted to develop this branch and increase its usefulness.

During the year visits were paid to 277 prospective mothers by the Health Visitors. A number of cases also attended the Clinic in Eastcott Hill, but as the work was not in a developed condition, no statistics of this section are submitted.

### MATERNITY HOME.

At the Maternity Home in Milton Road, 21 patients were admitted during the year. 20 confinements took place; 18 infants were born alive and 2 still-born. Unfortunately 2 of the mothers died—one from Tumour and the other from Pneumonia contracted before admission. In both these instances the children were stillborn. Many cases had to be refused admission. There are only two beds available, which leave no working margin, so that although accommodation is only offered to cases in which it is imperative, disappointments are frequent.

The Infant Ward had to be abandoned during the year owing to the impossibility of obtaining skilled nurses and lack of accommodation. Only two cases were treated during the year, one case of circumcision and one of disease of the liver. 10 operations for circumcision and 1 operation for abscess were performed in the Home, but the patients were not detained in hospital.

The need of expansion of the Maternity Home is urgent. The matter is in hand, and there are hopes that before long a satisfactory scheme will be in working order.

The Midwives Acts are administered by the Wilts County Council, and do not come within the province of the Public Health



Committee of Swindon; but there are many ways in which the local Health Department can help the central administration, and in an unofficial way keep watch over this important service.

### CHILD WELFARE AND INFANTILE MORTALITY.

1246 births were registered as belonging to the Borough during 1920, 642 males and 602 females.

Of the 1256 births registered locally, 1224 were legitimate and 32 were illegitimate. There were 16 sets of twins. One set of triplets was born and reared.

Enquiries into the circumstances of 1239 births were made by the Health Visitors, and 1239 visits and 3472 revisits were paid to the homes of the new arrivals.

Table showing the numerical order of the pregnancies, the number of births, the total deaths and Death Rates for the year 1920.

TABLE 10.

No. of Pregnancy	Males	Females	Total	Total No. of deaths	Death Rates
1st	225	208	433	40	95
2nd	136	127	263	11	42
3rd	82	83	165	8	43
4th	59	58	117	5	43
5th	37	34	71	4	58
6th	28	24	52	2	38
7th	17	18	35	2	} 80
8th	10	19	29	3	
9th	13	8	21	—	
10th	8	4	12	1	
11th	4	5	9	1	
12th	2	—	2	—	
13th	—	1	1	1	
14th	—	1	1	1	
15th	—	1	1	—	}
16th	1	—	1	—	
Unknown	16	10	26	4	
TOTALS	638	601	1239	83	68

It will be observed from this table that the Death Rate in first pregnancies is about double that of those that follow until the 7th pregnancy is reached, when the Death Rate again becomes high. The causes of the high mortality among first children are the longer and more tedious labour and also that the great majority of illegitimate births are first pregnancies; for it is to be noted that the Death Rate among illegitimate children is practically double that of legitimate children. Lack of experience in mothercraft also plays a part in the greater mortality amongst the first-born. The causes of the high mortality in late pregnancies are the exhaustion of the generative power of the parents, and the increased struggle for existence which has to be endured by the late-comers in large families.

1190 were full term and 49 were premature.

50	cases	were	attended	by	doctors
757	„	„	„	„	midwives
404	„	„	„	„	midwives and doctors
3	„	„	„	„	neither by midwives or doctors

and in 25 cases no information was available.

There were 5 cases of puerperal fever notified during the year, with 4 deaths.

12 cases of Ophthalmia Neonatorum were notified.

4 women died from diseases and disorders of pregnancy, and 7 from causes incidental to childbirth.

During the year 1131 notifications of births were received. 9 of these were duplications, leaving a nett total of 1122 births notified. Of these notifications 49 were received from medical men, 1065 from midwives and 8 from parents.

The total number of births registered in the Borough was 1256. There was thus a deficiency of 134 births unnotified.

The total number of births belonging to Swindon for the year 1920 is 1246 (642 males and 604 females).

Appended is a statement showing the comparative figures for the years 1916-1920, with the percentages.

TABLE 11.

YEAR.	No. of Notifications received in office.	Percentage of births Notified.	Number received from Midwives	Percentage.	Number received from Medical Men.	Percentage.	Number received from Parents.	Percentage	No. of births registered locally	Deficiency in Notifications	Percentage	Registrar General's corrected returns.	Birth Rate
1916	992	97.1	901	90.8	72	7.2	19	2.0	1022	30	2.9	1035	18.9
1917	846	96.5	695	82.2	132	15.6	19	2.2	877	31	3.5	891	15.5
1918	814	91.7	712	87.3	80	9.9	22	2.8	888	74	8.3	934	16.5
1919	901	96.6	819	90.9	60	6.7	22	2.4	933	32	3.4	905	16.86
1920	1122	89.3	1065	94.9	49	4.3	8	.8	1256	134	10.7	1246	23.25



The total number of deaths in infants under 12 months was 86, which gives an Infant Death Rate of 69.0 per 1,000 births, as compared with 83.9 for last year.

Table 12 shows the various Rates for Swindon as compared with England and Wales for the years 1915-1920.

TABLE 12.

YEAR	Infant Death Rate.	
	Swindon	England & Wales
1915	67.7	110
1916	72.4	91
1917	88.6	97
1918	81.3	97
1919	83.9	89
1920	69.0	80

As indicated last year the causes of death have been set out in accordance with Table 4 of the Local Government Board Returns made prior to the War. Table 13 shows a summary of the causes of death in infants under 12 months for the year 1920.

## BOROUGH OF SWINDON.

## INFANT MORTALITY (SUMMARY). TABLE 13

1920. *Nett Deaths from stated causes at various ages under One Year of Age.*

CAUSES OF DEATH.				Under 1 week	1-2 weeks	2-3 weeks	3-4 weeks	Total under 4 weeks	4 weeks and under 3 months	3 months and under 6 months	6 months and under 9 months	9 months and under 12 m'ths	Total deaths under 1 year
All Causes :—													
Certified	....	....	....	35	5	4	3	47	12	12	5	10	86
Uncertified	....	....	....	....	....	....	....	....	....	....	....	....	....
Small-pox	....	....	....	....	....	....	....	....	....	....	....	....	....
Chicken-pox	....	....	....	....	....	....	....	....	....	....	....	....	....
Measles	....	....	....	....	....	....	....	....	....	....	....	....	....
Scarlet Fever	....	....	....	....	....	....	....	....	....	....	....	....	....
Whooping Cough	....	....	....	....	....	1	....	1	1	1	....	....	3
Diphtheria and Croup	....	....	....	....	....	....	....	....	....	....	....	....	....
Erysipelas	....	....	....	....	....	....	....	....	....	....	....	....	....
Tuberculous Meningitis	....	....	....	....	....	....	....	....	....	....	....	....	....
Abdominal Tuberculosis	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Tuberculous Diseases	....	....	....	....	....	....	....	....	1	....	....	1	2
Meningitis ( <i>not Tuberculous</i> )	....	....	....	....	....	....	....	....	....	....	2	....	2
Convulsions	....	....	....	2	....	....	....	2	....	....	....	....	2
Laryngitis	....	....	....	....	....	....	....	....	....	....	....	....	....
Bronchitis	....	....	....	1	....	1	....	2	....	1	1	1	5
Pneumonia (all Forms)	....	....	....	....	....	....	....	....	4	2	....	3	9
Diarrhoea	....	....	....	....	....	....	1	1	....	....	....	....	1
Enteritis	....	....	....	....	....	....	....	....	....	3	....	....	3
Gastritis	....	....	....	....	....	....	....	....	2	2	....	....	4
Syphilis	....	....	....	....	....	....	....	....	....	....	....	....	....
Rickets	....	....	....	....	....	....	....	....	....	....	....	....	....
Suffocation, overlying	....	....	....	....	....	....	....	....	....	....	....	....	....
Injury at Birth	....	....	....	....	....	....	....	....	....	....	....	....	....
Atelectasis	....	....	....	....	....	....	....	....	....	....	....	....	....
Congenital Malformations	....	....	....	....	1	....	....	1	....	....	....	....	1
Premature Birth	....	....	....	23	2	1	1	27	3	....	1	....	31
Atrophy, Debility and Marasmus	....	....	....	6	1	....	....	7	1	2	....	1	11
Jaundice	....	....	....	1	1	....	....	2	....	....	....	....	2
Haemophilia	....	....	....	....	....	....	1	1	....	....	....	....	1
Lues Congenitalis	....	....	....	....	....	....	....	....	....	1	....	....	1
Icterus	....	....	....	1	....	....	....	1	....	....	....	....	1
Intussusception of Bowel	....	....	....	....	....	....	....	....	....	....	....	1	1
Difficult Parturition	....	....	....	1	....	....	....	1	....	....	....	....	1
Influenza	....	....	....	....	....	....	....	....	....	....	....	1	1
Tetanus Neonatorum	....	....	....	....	....	1	....	1	....	....	....	....	1
Accident	....	....	....	....	....	....	....	....	....	....	1	....	1
Pneumococcal Pyæmia	....	....	....	....	....	....	....	....	....	....	....	1	1
Gastro-Enteritis	....	....	....	....	....	....	....	....	....	....	....	1	1
Totals	....	....	....	35	5	4	3	47	12	12	5	10	86

**BOROUGH OF SWINDON INFANT MORTALITY (SUMMARY)**

TABLE 14.

Number of Births	.... 1246	Illegitimate Deaths	... 6
Birth Rate	.... 23.25	Total Illegitimate Births	49
Number of Deaths	.... 624	Illegitimate Death Rate	122.44
Infant Death Rate	.... 69.0	Density of Population	12.9 persons to the acre

**NORTH WARD.**

Number of Births	.... 336	Infant Death Rate	.... 68.45
Birth Rate	.... 25.2	Illegitimate Deaths	.... 1
Number of deaths	.... 134	Ward Density	25 persons to the acre

**SOUTH WARD.**

Number of Births	.... 143	Infant Death Rate	.... 34.96
Birth Rate	.... 18.9	Illegitimate Deaths	.... —
Number of Deaths	.... 86	Ward Density	3.5 persons to the acre

**EAST WARD.**

Number of Births	.... 179	Infant Death Rate	.... 67.0
Birth Rate	.... 22.6	Illegitimate Deaths	.... 2
Number of Deaths	.... 92	Ward Density	19 persons to the acre.

**WEST WARD.**

Number of Births	.... 265	Infant Death Rate	.... 64.15
Birth Rate	.... 26.0	Illegitimate Deaths	.... 1
Number of Deaths	.... 80	Ward Density	15 persons to the acre.

**KING'S WARD.**

Number of Births	.... 168	Infant Death Rate	.... 83.33
Birth Rate	.... 18.3	Illegitimate Deaths	.... —
Number of Deaths	.... 79	Ward Density	26 persons to the acre.

**QUEEN'S WARD.**

Number of Births	.... 165	Infant Death Rate	.... 96.96
Birth Rate	.... 23.5	Illegitimate Deaths	.... 2
Number of Deaths	.... 96	Ward Density	49 persons to the acre



TABLE 15

WARD.	No. of Births				No. of Infant Deaths				Infant Mortality Rates.			
	1917	1918	1919	1920	1917	1918	1919	1920	1917	1918	1919	1920
North	223	234	268	336	23	12	15	23	103.0	51.28	55.98	68.45
South	105	134	115	143	6	7	15	5	57.14	52.23	130.43	34.96
East	119	120	106	179	8	13	10	12	67.22	108.3	94.34	67.0
West	214	200	192	265	18	22	11	17	84.11	110.0	57.29	64.15
King's	127	137	128	168	12	8	9	14	94.51	58.39	70.31	83.33
Queen's	89	101	124	165	12	14	16	15	134.83	138.61	129.03	96.96

It will be noted on Examination of the Infant Death Rates of the various Wards that Queen's Ward, with a density of population equal to 49 persons per acre again presents the highest ward mortality for infants.

**REVIEW OF THE COMPARATIVE VITAL AND MORTALITY  
STATISTICS FOR THE BOROUGH OF SWINDON FOR THE  
YEARS 1901 TO 1920 INCLUSIVE.**

Below is appended a statement indicating the Birth Rates, the General Death Rates and the Infant Mortality Rates for the years 1901—1920 inclusive.

TABLE 16.

YEAR	Birth Rate	General Death Rate	Infant Mortality Rate	Illegitimate Death Rate
1901	30.6	11.8	102.9	....
1902	28.3	12.7	104.7	....
1903	29.5	11.27	106.9	....
1904	30.0	12.49	111.2	....
1905	28.4	11.2	95.4	....
1906	29.4	9.9	86.2	....
1907	28.8	12.3	91.8	....
1908	28.9	11.8	101.5	....
1909	26.5	10.8	78.2	....
1910	23.4	9.7	86.8	....
1911	21.6	10.9	103.1	....
1912	23.4	10.3	76.3	....
1913	23.39	12.08	86.4	....
1914	22.5	11.5	73.7	....
1915	21.16	12.83	67.7	....
1916	18.9	11.3	72.4	....
1917	15.5	12.25	88.6	....
1918	16.53	15.13	81.3	129.63
1919	16.86	11.97	83.9	79.52
1920	23.25	11.64	69.0	122.44

In order to secure a continuity of the Borough statistics, this table has again been included, and the Illegitimate Infant Death Rates for the years 1918, 1919 and 1920 have been added. The latter rates were not available prior to the year 1918.

## DEATHS OF CHILDREN BETWEEN THE AGES OF 1 AND 5 YEARS.

TABLE 17.

		Age in years.			
		1—2	2—3	3—4	4—5
<b>Infections</b>					
Tuberculous Meningitis	....	1	—	—	—
Other Tuberculous Disease	....	1	—	—	—
Diphtheria	....	—	—	2	1
Encephalitis Lethargica	....	—	—	—	1
Measles	....	1	—	—	—
Infantile Paralysis	....	—	1	—	—
Tetanus	....	—	—	1	—
Broncho-Pneumonia	....	2	2	2	1
Infective Enteritis	....	—	1	—	—
Meningitis	....	—	—	1	—
<b>Accidental Causes</b>					
Burns	....	—	1	—	—
Suffocation	....	—	1	—	—
<b>Various</b>					
Marasmus	....	1	—	—	—
Convulsions	....	1	—	—	1
Volvulus	....	1	—	—	—
<b>TOTALS</b>		8	6	6	4
<b>Mortality Rates</b>		10	7.5	7.5	4

In the above table the Mortality Rate is based upon the number of births registered in the years 1919, 1918, 1917, 1916, respectively, the only correction made being to deduct from each yearly total of births, the number of children who succumbed during the first year. The rates of mortality would only be absolutely correct if no immigration into or emigration from Swindon had occurred, or if the immigration and emigration balanced each other. There is, of course, no available evidence upon these points, so the mortality rates are approximate only.



## INFANT DEATH ENQUIRIES.

From the information gained by these enquiries the following points were elucidated :—

84 deaths occurred in the Borough. Of this number—

83 were investigated, of which 44 were males and 39 females.

79 were legitimate births and 4 were illegitimate births.

13 infants lived less than 1 day.

23 lived from one day to one week.

9 lived from one week to one month.

and 38 lived over one month.

Of these cases :—

40	were	1st	Children
11	„	2nd	„
8	„	3rd	„
5	„	4th	„
4	„	5th	„
2	„	6th	„
2	„	7th	„
3	„	8th	„
1	„	10th	„
1	„	11th	„
1	„	13th	„
1	„	14th	„

and in four cases the information was not stated.

The causes of these deaths can be tabulated as follows :—

	Deaths
A. Prematurity, Malformation, Difficult Delivery and Congenital Disease ....	44
Of these 10 survived less than one week, and 23 were first babies.	
B. Respiratory Diseases ....	17
C. Diarrhoeal Diseases ....	7
D. Burns ....	1
Marasmus ....	6
Tuberculosis ....	2
Meningitis ....	2
Tetanus ....	1
Convulsions ....	1
Influenza ....	1
Pyæmia ....	1

Of the four illegitimate deaths, 3 died from prematurity, and 1 from marasmus. 3 were first babies and one was a tenth baby.

The method of feeding adopted by the children who survived one week, and then died, was carefully enquired into, and it was found that :—

- 25 (53%) were breast-fed.
- 19 (40%) were entirely artificially fed.
- and 3 (7%) were part naturally and part artificially fed.

The method of feeding adopted in cases which failed to survive a week furnishes no useful information. Most of them had not been fed at all. Seven infants died of diarrhoeal diseases. Of these 6 (85.8%) were artificially fed, and only 1 (14.2%) breast fed.

Six infants died of marasmus (wasting). Of these 4 (66.6%) were artificially fed, and 2 (33.3%) were breast fed.

It will be noted that the (44) majority of infant deaths during the year 1920, were due to ante-natal causes, and that the deaths from infective processes and errors of the management of infancy were low (39). It may be stated that for many years past the deaths due to the ante-natal and natal causes have remained fairly constant, but an enormous reduction in the deaths due to post-natal causes has occurred, and this reduction has been, with few exceptions, steadily progressive. It is really the deaths due to infections and mismanagement of infancy that cause the difference in the infantile mortality in different years, in different places and amongst different classes of the community. At present the deaths from the pre-natal and natal causes remain practically constant at all times in all places, and amongst all classes. The low death rate from the post-natal causes is good evidence of the progress of preventive medicine. In theory, at all events, all these diseases are preventable, and in practice it has proved quite possible to reduce the infantile mortality in many places to fifty per cent of what it used to be.

### **STILLBIRTHS.**

The circumstances connected with all cases of stillbirths which are notified to us, or which come to our knowledge in any way, are investigated.

40 such investigations were carried out during 1920, 35 being legitimate and 5 illegitimate.

Of these 40 cases, 1 illegitimate and 23 legitimate were full-term, 10 legitimate and 4 illegitimate were premature between 7 and 9 months, and 2 legitimate were less than 7 months.

25 were first pregnancies, and  
15 were not first pregnancies.

Of the 15 which were not first pregnancies, in 8 cases there had been no previous deaths in the family ; in 6 there had been 1 previous death, and in one case there had been 2 previous deaths.

The ages of the mothers delivered of still-births were as follows

No. of mothers.				Age.
1	....	....	....	19 years.
2	....	....	....	22 „
4	....	....	....	23 „
3	....	....	....	24 „
3	....	....	....	25 „
2	....	....	....	26 „
3	....	....	....	27 „
1	....	....	....	32 „
1	....	....	....	33 „
1	....	....	....	41 „
1	....	....	....	42 „
5	....	....	....	Unknown.

All the illegitimate cases were first pregnancies.

Such is the statistical evidence afforded by the work done in connection with infantile mortality in 1920, and before we proceed to draw any conclusions or to give a meaning to these known facts, it is necessary to scrutinise this evidence and to clearly appreciate all directions in which it is defective, so that the conclusions drawn may be purged, as far as possible, of gross errors of reasoning.

Socially and legally there is a broad distinction drawn between infants born alive and stillbirths and miscarriages, but the natural line of demarkation is not at birth but approximately at about the end of the first week of extrauterine life. The children who survive for one week are mainly reproductive successes, and should they die subsequently their deaths are mainly due to infections or errors of management. On the other hand those infants who fail to survive a week are much the same as those who die in utero or in the process of delivery. They are reproductive failures, and the question whether they will or will not enter the world still living is merely a matter of slightly more or less vitality, or more or less difference or delay in the mechanical process of birth.



So far, public health measures have been directed practically entirely to the first class of infants, or the reproductive successes. That our efforts have been extremely successful is evidenced by the progressive fall in the infantile mortality rate. The infantile mortality rate for the year 1920 is 69, which is the lowest but one in the history of the Borough, and is nearly 15% below that of 1919. This favourable result is rendered somewhat remarkable by the fact that the Birth Rate has been higher than for many years, and as is well known, the infantile mortality rate tends to rise with the rising Birth Rate. Moreover, the food supply was on the whole, scarcer and of poorer quality than in past years, and unquestionably very much higher in price. Again, the housing conditions of the town were worse in 1920 than in any previous years. These factors would make for a higher infantile mortality rate. On the other hand the climatic conditions of the year under review, with its equable temperature and rainfall, particularly with its wet and cold July, and cold August, would react favourably in reducing the mortality from diarrhoeal diseases, and the high standard of wages and conditions of employment during the year would tend to lower the death rate.

But taking all these circumstances into consideration, I think there can be no doubt that the work done in the Child Welfare Department of the Corporation has done very much to produce the favourable results of the past year. In the Child Welfare Centre it is possible to keep the majority of the new-born infants of the Borough under observation and to attack immediately any unfavourable developments that may occur, so that conditions which might have progressed to a fatal issue are removed or remedied in their early stages. In the second place, the interest of the mothers is stimulated, and their experience of the care and management of children is augmented by the advice obtainable at the clinic. Thirdly it will be noted that a great drop in the infantile mortality has occurred coincidently with the introduction of the supply of free milk under the Milk (Mothers and Children) Order, 1919, and I am fully convinced that the operation of this Order has resulted in a great saving of infant life, more than commensurate with the expenses it has entailed.

While our statistical evidence in regard to the deaths of children born alive is substantially perfect, that obtainable in regard to stillbirths and miscarriages is merely fragmentary. It is of vital public health importance for us to obtain accurate evidence of the amount and distribution of pregnancies which have failed, but it is unquestionably most extremely difficult to obtain the required information. It has been suggested that the compulsory notification of pregnancy would help us to obtain the evidence we require, but apart from the grave social difficulties

in enforcing such a measure, it is very doubtful whether it would succeed in its object, for the earlier the failure of pregnancy the more important is its meaning and I do not think that in any scheme of notification it would be possible to get reliable evidence upon the miscarriages of the early months of pregnancy.

The future of public health work in connection with Maternity and Child Welfare should lie in attacking the causes which produce failure of reproductive activity, and already a start has been made in this Borough and elsewhere to form ante-natal clinics where this subject can be studied and means of amelioration discovered and adopted. But it must be many years before any great result can be achieved, for our knowledge of the whole subject is at present rudimentary.

Of the conditions which lead to the failure of pregnancy, the following are known with some degree of certainty :—

#### (1) VENEREAL DISEASE.—

That venereal disease is a most potent cause of reproductive failure has been known for several centuries. It is, however, extremely difficult to estimate its ravages. Notwithstanding the large amount of work in connection with this subject, particularly since the war, we are absolutely in the dark as to its prevalence in the population at large. It has been estimated by some observers to be as high as 80% of the population, but upon evidence which is valueless. Such evidence as I can offer deduced from the working of the various branches of the Maternity Clinic would suggest that Syphilis is not a common condition in Swindon, at all events among women in reproductive activity. But one infant death was registered as being caused by Syphilis, and of the 1517 babies that attended the Clinic, Congenital Syphilis was only recognised with certainty in 5 cases, and Ophthalmia Neonatorum in 7. Doubtless many of the other infants were syphilitic although they did not exhibit any sign or symptom by which the disease could be detected with certainty. Nevertheless, I must submit that if maternal syphilis were as frequent as some authorities would have us believe, it is incredible that so little evidence of its existence should have come to light.

#### (2) CONDITIONS AFFECTING THE GENERAL HEALTH AND REPRODUCTIVE CAPACITY OF THE PARENTS.—

These include too little, too much and unsuitable food ; alcoholism ; overwork ; lack of light, exercise and ventilation ;



overcrowding ; small, damp, dirty and uncomfortable housing conditions, etc. These can all be grouped together. Their action upon the reproductive functions is indirect, and the extent to which they interfere with the progress of the population is not at present known. Some of them, such as those connected with faulty nourishment, and with alcoholism must be decreasing as the causes are decreasing, though others, such as overcrowding, may be increasing.

### (3) INTERFERENCE WITH PREGNANCY.—

Either by ingestion of purgatives, the taking of drugs which either have, or are supposed to have, the action of emptying the womb, or the more criminal mechanical interference, are causes of reproductive failure which there is reason to believe are on the increase, though to what extent, it is impossible to determine with any degree of accuracy. If successful, such actions, of course result in the death of the child, and not infrequently of the mother also : but if they fail to expel the child, they may nevertheless succeed after birth by interference with the child's vitality, and produce either early death or permanent inefficiency.

### (4) CAUSES DUE TO DISEASES OR MISPLACEMENTS OF THE MATERNAL ORGANS—

Heavy household work, particularly such as involves lifting heavy weights or working hard in a stooping position, such as occurs at washing at a sink, tends to injure and displace the maternal organs, and in the working class population where the family washing is done at home, usually at a sink, which is placed too low, the number of child-bearing women who suffer is very great, and I am of the opinion that this is one cause, and a potent cause, of failure of pregnancy.

### (5) DIMINUTION OF RACE FERTILITY—

It is possible that the race as a whole may have become less fertile. Absolute sterility in individuals of both sexes is not uncommon. Certain families become apparently worn out and lose their reproductive powers, gradually becoming extinct. Many races in the past have <sup>ing</sup>lost their fertility, became fused in surrounding nations and have lost their identity permanently. Many races at the present day are also becoming extinct, and the vital question may be asked as to whether our own race is not sharing a similar fate.



The progressive fall in the Birth Rate during the past fifty years lends support to this view, and such evidence is not opposed by the great fall and subsequent recovery of the Birth Rate during the closing years of the recent war and in the post-war period. But there is one point which suggests that the race is not exhausted. In races and species that are undergoing retrogression, the proportion of male to female births is high and increases steadily so that eventually the number of males born is vastly in excess of the females. There is no evidence of this occurring in England at the present moment, the number of male to female births keeping constantly at the normal standard of about 105 males to 100 females. In the year 1920 the proportion in Swindon was 106 males to 100 females.

Of all these causes of reproductive failure, it is clear that with the exception of the last, they are theoretically preventable, and it seems to me that the future of Public Health work in this direction should be to convert the theoretical into the practical, and to devise means by which they not only can be, but actually are, prevented from operating.

### INFANT WELFARE CLINICS.

During the year an infant clinic was held at Eastcott Hill on Mondays, Wednesdays and Fridays. Medical Consultations are held on Wednesdays by the Medical Officer of Health and on Fridays by the Assistant Medical Officer of Health.

The following is a record of the work done at the Centre during the past three years :—

	1918	1919	1920
Total number of Infants on the Books of the Centre	1046	1189	1517
Total Number of attendances	2297	2798	4444
Number of cases which received medical advice and treatment.	184	341	656

The following conditions were seen and treated at the Clinic.

TABLE 18.

					Babies		Infants 2—5		
					Treated	Not Treated	Treated	Not Treated	Total
<b>1. Errors of Management of Infants—</b>									
1. Illfeeding	....	....	279	—	11	—	290		
2. Skin Eruptions	....	....	65	—	3	—	68		
3. Debility	....	....	—	—	9	—	9		
<b>2. Diseases and Defects due to ante-natal causes—</b>									
4. Phimosis	....	....	13	33	—	—	46		
5. Hypospadias	....	....	—	2	—	—	2		
6. Hydrocele	....	....	—	2	—	—	2		
7. Atresia	....	....	—	1	—	—	1		
8. Hernia Umbilical	....	....	9	—	—	—	9		
9. „ Inguinal	....	....	2	12	—	—	14		
10. Dermoid	....	....	—	2	—	—	2		
11. Mole	....	....	1	—	—	—	1		
12. Naevus	....	....	16	1	3	—	20		
13. Cyst	....	....	—	3	—	—	3		
14. Meningocele	....	....	—	1	—	—	1		
15. Hare Lip	....	....	—	1	—	—	1		
16. Deformed Tongue	....	....	—	1	—	—	1		
17. Tongue-tie	....	....	8	—	—	—	8		
18. Coloboma	....	....	—	1	—	—	1		
19. Congenital Cataract	....	....	—	2	—	—	2		
20. Squint	....	....	1	11	—	1	13		
21. Cleft Palate	....	....	—	2	—	—	2		
22. Wry Neck	....	....	1	2	—	—	3		
23. Club Foot	....	....	—	1	—	—	1		
24. Mongolism	....	....	—	1	—	—	1		
25. Imbecility	....	....	—	1	—	5	6		
26. Congenital Heart Disease	....	....	2	—	—	—	2		
27. Prematurity	....	....	1	—	—	—	1		
28. Congenital Syphilis	....	....	5	—	—	—	5		
29. Haemophilia	....	....	—	—	1	—	1		

		Babies		Infants 2—5		
		Treated	Not Treated	Treated	Not Treated	Total
<b>3.</b>	<b>Disease due to post natal infections—</b>					
30.	Ophthalmia Neonatorum	7	—	—	—	7
31.	Conjunctivitis	12	—	—	—	12
32.	Ear Disease	11	—	1	—	12
33.	Inflammation of breasts	6	—	—	—	6
34.	Rickets	9	—	3	—	12
35.	Bronchitis	9	—	4	—	13
36.	Heart Disease	—	—	—	1	1
37.	Nasal Catarrh	4	—	1	—	5
38.	Tuberculosis	1	—	2	—	3
39.	Whooping Cough	—	6	—	—	6
40.	Chicken Pox	—	—	—	1	1
41.	Infantile Paralysis	—	—	—	1	1
42.	Scabies	6	—	2	—	8
43.	Thrush	17	—	—	—	17
44.	Ringworm	—	—	2	—	2
<b>4.</b>	<b>Miscellaneous Post-Natal conditions—</b>					
45.	Concussion	1	—	—	—	1
46.	Enuresis	—	—	1	—	1
47.	Convulsions	1	—	—	—	1
48.	Deaf Mutism	—	—	—	1	1
49.	Neurosis	—	—	1	—	1
50.	Asthma	—	—	3	—	3
51.	Urticaria	4	—	3	—	7
52.	Dental decay	—	—	—	4	4
53.	Chillblains	2	—	—	—	2
54.	Jaundice	1	—	—	—	1
55.	Ganglion	2	—	—	—	2
56.	Adenoids	—	1	—	1	2
57.	Archritis	1	—	—	—	1
58.	Deformity of Knee	—	1	—	1	2
59.	Cystitis	1	—	—	—	1
60.	Injuries	3	—	1	—	4
TOTALS		501	88	51	16	656

Cases which are not treated at the Clinic are such as require surgical operations, which cannot be performed at the Clinic ; cases which must be treated at home, or cases for which no treatment is advisable at present. When surgical operations of a serious nature are indicated, arrangements are made for the cases to be admitted into suitable hospitals.



It will be noted that more than half of the children treated at the clinic were suffering from ill-feeding and various skin eruptions. These children may be considered less as suffering from actual disease as from errors which would eventually have led to disease unless they had been checked. It is in this direction that the activities of the clinic are of most value—the correction of adverse circumstances and errors of management from progressing downhill to disease, disability and death. The clinic is mainly preventive in its aim—it exists less for the treatment of complaints than for their prevention. The Medical Officer of Health holds a watching brief on behalf of the rising generation; when things are progressing favourably he merely looks on; when they take an unfavourable turn he steps in and corrects what is going wrong; when sickness cannot be prevented he sees that appropriate treatment is obtained. It is not usually his duty to carry out the actual treatment of diseases.

### **SUPPLY OF MILK UNDER THE MILK (MOTHERS AND CHILDREN) ORDER, 1919.**

In the latter part of 1919, the Council decided to grant Milk under this Order. The statistics of the year's work are as follows:

Number of applications	....	152
Number of applications granted	....	136
Number of applications refused	....	16
Number of renewals granted	....	527
Approximate Total quantity of milk supplied		2388 gallons
Approximate Total value of milk supplied		£350

The milk is supplied gratuitously to necessitous cases only.  $1\frac{1}{2}$  pints for infants under one year, 1 pint for each child under 5 years of age, and 1 pint for each nursing mother per diem is granted to families where the total income is less than £2 per week, or where the net income averages less than 7/6 per week per head of family. When the average income is above 7/6 and below 10/- per week, half these quantities are granted, it being presumed that the family exchequer can rise to supply the other moiety at its own expense. There have been two or three exceptional cases where the average income per head has been above 10/- per week, but owing to serious and widespread sickness amongst the children such families have been much less well-off than others whose income is less. In these few cases I have granted a supply of milk, although, strictly speaking, they were not entitled to it.

Now that the Order has been in operation for a twelvemonth, it is possible to form some idea as to its working. There has been practically no abuse. In a few cases application has been made for

milk by those who were not entitled to benefit, but the total number of refusals (16), shows that the number of such persons is very few. In two cases milk was obtained by persons who were not entitled to it, but in both cases investigation proved the irregularity to be due to error rather than to false pretences. On the other hand, there are certain families known to us, who are fully entitled to free milk and to whom we are eager to grant it, but who refuse to apply, doubtless from an erroneous impression that the process involves inquisition, which is resented. The enquiries made before free milk is granted are reduced to the least possible consistent with guarding the interests of the Corporation, and cannot, in any way, be considered offensive.

It was expected that the rise of unemployment at the end of the year would cause a great increase in the number of applications for free milk, but in point of fact it occasioned no increase.

Though the expenses connected with the Order are considerable, I have not the least hesitation in saying that the saving in life and health among the least prosperous citizens of the town more than compensates for the expenditure.

#### MILK (MOTHERS AND CHILDREN) ORDER, 1920.

The milk supply of Swindon is good. Of the 42 samples of milk taken by the County Council under the Food and Drugs Act, 39 were genuine. The quantity of milk available for the town is, on the whole, satisfactory, though it must be admitted that the price ruling in 1920 was high. There has consequently been no necessity to put the 1920 Order into operation.

5 samples of milk were taken and examined for the presence of the Tubercle bacillus. They were all found to be free from Tubercle bacilli.

No outbreak of disease due to, or suspected to be due to, milk occurred in the Borough during 1920.

#### SALE OF DRIED MILK AND NUTRITIVE PREPARATIONS

The cost of dried milk, etc., supplied during the year was approximately £1238, compared with £580 in 1919, and the amount recovered by the sale £1154 as against £586 in 1919. Approximately £102 value of the preparations was in hand at the end of the year.

The preparations are only sold to mothers attending the clinic. A balance of the account is aimed at, so that there shall neither be profit nor loss to the Corporation. A certain amount



of dried milk is allowed free to families in distress, when the infants would otherwise suffer from insufficient feeding.

### **DEMONSTRATIONS IN DOMESTIC SCIENCE**

In addition to a clinic for ante-natal work, which is at present in course of development, lectures and demonstrations in domestic science are given to the mothers under an arrangement with the Education Committee. Classes in needlework and cookery are held each week. These lectures are well attended, and are becoming more popular. The work is supplemented by talks from the Nurses and Health Visitors. The object aimed at is to keep in touch with the women of the Borough during their reproductive life, and to interest and instruct them in domestic economy and the rearing of families. There is no doubt that the work is appreciated by those for whom it was instituted, and is of value to the State in fostering home life. The great difficulty to be overcome is to get hold of that section of the population which is most in need of instruction, of help, and of stimulation. I think that this great object will be achieved in time, but progress will be necessarily slow.

A review of the foregoing details of the work of the Maternity and Child Welfare Department shows that the work nearly doubled last year, and it is still increasing steadily. The objects of the Child Welfare Department are being attained, but they are not, and cannot be attained, without considerable labour.

### **SANITARY ADMINISTRATION**

#### **STAFF—**

The Staff of the Sanitary Department consists of:—

Mr. A. E. Bottomley	Chief Sanitary Inspector.
Mr. F. H. Beavis	} Assistant Sanitary Inspectors
Mr. E. Partridge	

The time of Mr. Beavis is devoted mainly to Housing, and that of Mr. Partridge to food inspection. A pupil Sanitary Inspector (Mr. F. R. G. Selwood) was also employed by the Department.

#### **HOSPITAL ACCOMMODATION**

The Borough is served by an infectious diseases hospital administered by a separate Board. This hospital offers accommodation for the ordinary infectious diseases, or for any special epidemic or infectious diseases that may arise. The Hospital Board also possesses a fully equipped Smallpox Hospital. Unfortunately the housing scheme of the Corporation will render the



Smallpox Hospital useless for the treatment of Smallpox, and the Hospital Board is under the necessity of finding alternative accommodation for the treatment of Smallpox. Negotiations are in progress for obtaining such suitable accommodation, but the present Smallpox Hospital will remain ready to deal with any cases until a new hospital is actually completed and ready for immediate action.

#### LOCAL ACTS AND SPECIAL ORDERS IN FORCE IN THE DISTRICT

A list of the Special Orders and Adoptive Acts in force in the District is appended. It will be seen from a perusal of these that the Borough possesses ample powers for dealing with anything which may arise. In addition to these local Acts the Borough possesses a complete series of excellent By-Laws. Unfortunately, in the past these By-Laws have not always been complied with, and in some cases have been shirked somewhat extensively, with the result that much of the work of the Sanitary Department has to be devoted to righting wrongs which should never come into existence.

The most important of the Local Acts in operation in the Borough is the Swindon Corporation Act of 1904. This Act contains many provisions dealing with sanitary administration, and it will be convenient this year to give a short review and criticism of the administration of this Act.

The Sanitary Provisions of the Swindon Corporation Act are contained in Parts V, VI and VII. Section 37 gives the Corporation power to insist upon the provision of galvanised iron dustbins, and to prescribe their size and construction, etc. In an earlier part of this Report I have commented upon this provision, and must repeat that it is a great misfortune that this excellent provision should have been allowed to fall into abeyance. Section 41 gives power to the Surveyor, Medical Officer of Health or Inspector of Nuisances to obtain a warrant from a Justice to inspect, and if necessary, open up, any sanitary works or convenience if there are reasonable grounds for doing so. The provisions contained in the four Sub-Sections of this Clause are of very great value to the Sanitary Department, and are extensively made use of. Section 44 deals with the penalties of wilful neglect or default in the construction or repairing of sanitary work. I am not aware that this Section has yet been utilised. It might prove to be a very valuable power if it should be needed. The other Sections of Part V. deal with certain augmentations and simplifications of the Public Health Acts.

Part VI of the Act deals with the subject of Tuberculosis. This part of the Act gives very useful powers to the Sanitary Authority, particularly in relation to the milk supply. Some of the Sections are somewhat complicated and difficult to administer, particularly Section 52. Therefore they are not likely to be utilised to any great extent, but in the face of any serious epidemic or similar emergency the powers conveyed will prove of great value.

Part VII of the Act deals with Infectious Diseases. Personally I have found the Sections under this part of the Act of the greatest value. In the recent epidemic of Diphtheria in the Borough I found that this part of the Corporation Act gave me powers which I otherwise should not have possessed, and enabled me to attack the epidemic with a vigour and with an ultimate success which would not have been achieved if I had not this Section of the Act to help me.

Section 63 requires the Corporation to compensate anyone for loss sustained by reason of his employment being stopped by the order of the Medical Officer of Health. This Section causes considerable expense to the Corporation, but it enables infectious disease to be controlled, isolated and kept under observation much more completely than would be possible if the Section did not exist. I think therefore, that the expense incurred in putting this Section into action is money which is well spent.

Useful provisions for sanitary administration are also contained in Part VIII, dealing with Markets and Slaughterhouses, and Part IX, dealing with Common Lodging Houses.

In conclusion, the Swindon Corporation Act of 1904 does much to simplify and render more complete the sanitary administration of the Borough.

#### LIST OF LOCAL ACTS, SPECIAL LOCAL ORDERS AND GENERAL ADOPTIVE ACTS IN FORCE IN THE DISTRICT.

##### LOCAL ACTS AND ORDERS

The Swindon Corporation Act, 1904.  
Swindon Water Act, 1894.  
Swindon (Water) Orders of 1902 and 1919.  
Swindon Corporation Tramway Order, 1901.  
Swindon New Town Electric Lighting Order, 1895.  
Swindon Corporation (Wilts & Berks Canal Abandonment) Act, 1914.

ADOPTIVE ACTS IN FORCE.	DATE OF ADOPTION
Infectious Diseases (Prevention) Act, 1890. ....	11th March 1902
Notification of Births Act, 1907	27th Oct., 1914.
The Museums & Gymnasiums Act, 1891	6th June, 1905
The Public Health Acts Amendment Act, 1890 ....	11th Nov., 1890

#### ARRANGEMENTS FOR CHEMICAL AND BACTERIOLOGICAL WORK DURING THE YEAR.

Analyses of water and sewage effluent are carried out by Mr. W. R. Bird, the Analyst to the Great Western Railway Company. The number of samples submitted from the Sanitary Department and from the Borough Surveyor's Department is considerable.

The bacteriological work is carried out by Dr. E. Burnet, of Harley Street, London and by the Bristol University. It is hoped that before long the ordinary routine bacteriological work of the Borough will be carried out by the Public Health Department itself. This would occasion great saving of expense, and what is still more important, a very great saving of time.

Appended is a table showing the number of chemical and bacteriological examinations carried out during the year, together with the results.

TABLE 19.

No. of samples of water submitted for chemical analysis. ....	13	
No. of samples of water submitted for bacteriological examination ....	1	
No of swabs submitted for bacteriological examination for presence of Diphtheria bacilli ....	Found Positive Negative	
	839	5

The above table only applies to the work sent out by the Medical Officer of Health. In addition to the examination recorded above there have been a number of bacteriological examinations done at the Infectious Diseases Hospital. The number of these examinations is very considerable, but there is no record of their number.



No specimens of blood for Typhoid were submitted during the year 1920. Blood examinations for Wassermann Reaction are under the administration of the Wilts County Council. Specimens of Cerebro-Spinal-Fluid and Sputum were examined at the Isolation Hospital.

## HOUSING.

The work under the Housing and Town Planning Act was more or less in abeyance during the year 1920, and so information upon the housing conditions in the Borough is to be culled from less trustworthy sources, and is not as precise as one could wish.

### I. GENERAL HOUSING CONDITIONS IN THE DISTRICT.

#### 1. GENERAL HOUSING CONDITIONS.

Swindon is in the main a working-class town, and the majority of the Borough consists of rows of terraced houses. In its favour must be said that nearly every house in the Borough has a back garden, usually of fair extent, and most of the houses have small spaces in front of them. The great majority of the houses are only two stories high. Consequently the town is light and well ventilated. The houses generally are not as well built as they might have been, and the material of which most of them are built is not of a good or durable quality. The houses generally are inconvenient, a character they share with those in the rest of the country, and many of them have less window space than they should have. The greater proportion of the houses in the Borough are less than fifty years old, so they must be considered modern in date. They have suffered considerably from lack of repairs during the past six years, but in this respect I think Swindon has suffered less than the majority of towns with which I am acquainted. The housing problem in Swindon is relieved by the fact that the three insuperable bars to the decent housing of the population are practically absent. We have no blind courts, no back-to-back houses, and the number of two-bedroomed houses is so small that they cannot be classed as a nuisance.

#### 2. SHORTAGE OF HOUSES.

It is extremely difficult to form any adequate idea as to what shortage of houses exists in Swindon. That there is a shortage, probably a great shortage, is obvious and evidenced by investigations in every direction. To meet this shortage the Council is at present engaged in an extensive scheme of building. This scheme arranges to add to the Borough a thousand houses, or such smaller number as will adequately meet the needs of the town.

At the end of 1920 progress had been made with about 50 houses, and these would be ready for occupation early in the new year. In addition to the housing scheme there is a certain number of houses being constructed privately.

### 3. INFORMATION AS TO ANY IMPORTANT CHANGES IN THE POPULATION.

There has not been during the year, nor is there likely to be in the near future, any great change in the population of the Borough. I have reason to believe that during the year 1920 there was unusual immigration into the Borough, due, I think, to two factors, firstly, that though houses are short in Swindon, they are less short than in the neighbouring rural districts, and secondly, during a part of the year at all events, employment in Swindon was good.

## II. OVERCROWDING :—

### 1. EXTENT

I have no certain criterion upon which to estimate the extent of overcrowding in the Borough. If the figure of population given by the Registrar General (53,580) is correct, this would give an average of about 4.3 per house. Therefore, the town could not be considered overcrowded, but of course we know that the population is not evenly distributed throughout the available accommodation. Many cases of overcrowding came to my notice during the year, but they have only come to me from indirect sources, and the best evidence that I can give of the extent of overcrowding is the following table, which shows the number of inhabitants and the number of rooms in each house in which infectious disease occurred during the last two months of the year.

TABLE 20.

Total number of houses in which infectious diseases occurred	....	....	....	....	34
Total number of rooms in such houses	....	....	....	....	167
Total number of inhabitants	....	....	....	....	205
Average number of inhabitants per house	....	....	....	....	6
Average number of inhabitants per room	....	....	....	....	1.2

### 2. CAUSES OF OVERCROWDING.

The causes of overcrowding are similar to what obtain in the rest of the country, but there is one special factor in Swindon, and that is that a very large number of young unmarried people are employed in the town, and these naturally seek lodgings, so that

the number of families taking in lodgers is probably higher than rules generally in the country.

### III. FITNESS OF HOUSES.

Detailed statistics of action taken in regard to unfit houses appears in the Sanitary Inspector's Report. All actions taken during 1920 were taken under the Public Health Acts.

Many of the defects found, and many of the nuisances which give rise to complaint, are due to faulty construction when the houses were first built, a large number being due to defective drains, which were defective the day they were first laid down. Certain matters, such as lack of larders—a very general complaint in Swindon, lack of dustbins—equally frequent, waterclosets without proper flushing cisterns, etc., which should be dealt with under the Housing Acts, were passed over during the year under review as being of less serious import than the removal of more serious nuisances which had accumulated during the war.

#### DIFFICULTIES IN REMEDYING UNFITNESS, &c.

It was only towards the end of the year that it was possible to get repairs other than the most urgent taken in hand, but conditions began to improve, and the improvement was going on at an augmented rate during the beginning of 1921.

There are no back-to-back houses in Swindon, and very little really insanitary property. As time goes on, and the housing conditions improve, I foresee no difficulty in the gradual removal of all property which is really not fit for habitation, but during the year under review it was possible to take action in one case only.

### IV. UNHEALTHY AREAS.

There are no unhealthy areas in Swindon which will require dealing with under Part I of the Housing Act of 1890, and there is only one small area which may have to be dealt with under Part II of the Act, and even in this case there is no real urgency.

### V. BY-LAWS RELATING TO HOUSES, TO HOUSES LET IN LODGINGS AND TO TENTS, VANS, SHEDS, &c.

The By-Laws in force in the Borough are satisfactory and need no revision.



## VI. GENERAL AND MISCELLANEOUS.

In one case only was a closing order put into force against one house. This house is not, and cannot be made, fit for habitation, and will eventually be demolished.

**APPENDICES. HOUSING CONDITIONS****Statistics, Year Ending December 31st, 1920.**

TABLE 21

## 1. GENERAL.

(1)	Estimated population	....	....	....	53580
(2)	General Death Rate	....	....	....	11.64
(3)	Death Rate for Tuberculosis	....	....	....	1.28
(4)	Infantile Mortality	....	....	....	69.0
(5)	Number of dwelling-houses of all classes.	....	....	....	12,785
(6)	Number of working-class dwelling houses	(Approx)	10,000		
(7)	Number of new working-class houses erected	....	....	....	None

## 2. UNFIT DWELLING-HOUSES

## I. INSPECTION

(1)	Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts).	....	....	....	....	562
(2)	Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910	....	....	....	....	103
(3)	Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	....	....	....	....	1
(4)	Number of dwelling houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation.	....	....	....	....	236

## II. REMEDY OF DEFECTS WITHOUT SERVICE OF FORMAL NOTICES.

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers. ....	476
---	-----

## III. ACTION UNDER STATUTORY POWERS.

### A. Proceedings under section 28 of the Housing, Town Planning, &c., Act, 1919.

(1) Number of dwelling-houses in respect of which notices were served requiring repairs. ....	Nil
(2) Number of dwelling houses which were rendered fit	
(a) by owners ....	Nil
(b) by Local Authority in default of Owners	Nil
(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close ....	1

### B. Proceedings under Public Health Acts.

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied ....	5
(2) Number of dwelling-houses in which defects were remedied—	
(a) by owners ....	5
(b) by Local Authority in default of Owners....	Nil

### C. Proceedings under sections 17 and 18 of the Housing, Town Planning, &c., Act, 1909.

(1) Number of representations made with a view to the making of Closing Orders ....	Nil
(2) Number of dwelling-houses in respect of which Closing Orders were made ....	Nil
(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling houses having been rendered fit.	Nil
(4) Number of dwelling-houses in respect of which Demolition Orders were made ....	Nil
(5) Number of dwelling-houses demolished in pursuance of Demolition Orders ....	Nil

## 3. UNHEALTHY AREAS.

Areas represented to the Local Authority with a view to improvement Schemes under (a) Part I., or (b) Part II., of the Act of 1890 :—

(1) Name of area	}	Nil
(2) Acreage		
(3) Number of working-class houses in area		
(4) Number of working-class persons to be displaced		
Number of houses not complying with the building By-Laws, erected with consent of Local Authority under Section 25 of the Housing, Town Planning &c., Act, 1919.	....	Nil

Staff engaged on housing work, with briefly the duties of each officer :—

The Designated Officer under the Housing and Town Planning Act, 1909, is the Chief Sanitary Inspector, Mr. A. E. Bottomley, who is assisted by the Assistant Sanitary Inspector, Mr. F. H. Beavis. Mr. Bottomley's duties are those as defined by the Order of the Local Government Board. Mr. Bottomley's Assistant also assists in the inspections and in the supervision of the necessary repairs being carried out.



## CONCLUSION.

The conditions ruling at present, particularly in regard to the financial outlook, must cause considerable anxiety to those who are responsible for the maintenance of the Public Health. The guarding of the population against the ravages of disease is an expensive business, and the results obtainable from money spent in this direction are not always evident, and are, if they are successful, mainly of a negative character. In times of financial stringency it is therefore not surprising that economies on Public Health Administration look very tempting, and those who have the responsibility of guarding the Public Health require all their vigilance, and all their eloquence to see that the economies effected in this direction do not expose the population to danger. We have got so used to living long periods without severe epidemics of disease that there is a great tendency to imagine that the danger is no longer existent; but we have no grounds whatever for supposing that we are less liable to plagues and epidemics than we were in the past, and we know full well that without the strictest vigilance pestilences will again make their appearance amongst us. The epidemic of influenza in 1918 and the great prevalence of Scarlet Fever and Diphtheria in 1920 should be sufficient to remind us that epidemic disease is by no means a thing of the past. The state of Europe at the present moment makes vigilance of greater importance than it has been for a generation, and we may be sure that any slackness in the guarding of the Public Health of this country will open the way to the introduction of diseases from which at the present moment we are free.

DUNSTAN BREWER,

Medical Officer of Health.

Public Health Department,  
61, Eastcott Hill,  
Swindon.

24th May, 1921.

APPENDIX I.

Swindon and District Isolation Hospital Board.

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AN EPITOME OF THE  
ANNUAL REPORT

OF THE  
MEDICAL SUPERINTENDENT.

FOR THE YEAR

1ST APRIL, 1920, TO 31ST MARCH, 1921.

On the 1st April, 1920, there were 22 cases remaining in the hospital; 190 cases were admitted during the year, making a total of 212 cases for the year.

Of these 212 cases treated during the year :—

174 were discharged cured.

20 died, and

18 remained in the hospital at the 31st March, 1921.

### Cases admitted during the year 1/4/20 to 31/3/21.

41 cases were admitted notified as	Scarlet Fever
144       "       "       "	Diphtheria
1 case was       "       "	Enteric
3 cases were       "       "	Erysipelas
1 case was       "       "	Meningitis

These cases, arranged according to their final diagnosis were :—

	Cases.
Scarlet Fever       ....	48
Diphtheria       ....	120
Erysipelas       ....	3
Tuberculous Meningitis       ....	1
Tuberculous Kidney       ....	1
Pneumonia       ....	1
Septic Tonsilitis       ....	13
Croup       ....	1
Measles       ....	1
Erythema       ....	1

### Scarlet Fever—

41 cases of Scarlet Fever were notified; of these 39 proved to have the disease. In addition 9 cases notified as Diphtheria proved to be Scarlet Fever. This gives a total of 48 cases of Scarlet Fever admitted during the year. Of these 38 recovered and 10 remained in hospital at the 31st March, 1921. The only complications that occurred in the Scarlet Fever cases were one case of Otorrhoea and one case of Rheumatism and Pericarditis. One case notified as Scarlet Fever had in fact an Erythema, possibly due to poisoning, and one case had measles. Both of these recovered.

The case notified as Enteric Fever proved to have a Tuberculous kidney and was discharged. The three cases notified as Erysipelas had that disease and were discharged cured. The case notified as Meningitis had the tubercular form of the disease and died.



**Diphtheria.**

144 cases of Diphtheria were received into the Hospital notified as Diphtheria. Of these:—

1 was Pneumonia.  
 13 were Septic Tonsillitis.  
 9 were Scarlet Fever  
 and 1 was Croup. All these recovered.

This leaves 120 cases of true Diphtheria admitted during the year under review. Of these 120 cases:—

19 died  
 93 were discharged cured.  
 and 8 remained in the hospital at the end of the year.

Of the causes of death in the cases of Diphtheria:—

1 died before admission  
 2 were admitted in a moribund condition  
 1 died after the operation of Tracheotomy  
 1 died from Laryngeal Paralysis  
 2 died from Bulbar Paralysis  
 and 12 died from the haemorrhagic form of Diphtheria,  
 ending in acute Heart Failure.

There were 2 cases of Laryngeal Diphtheria, requiring the operation of Tracheotomy. One died and one recovered. There were 13 cases of the haemorrhagic form of Diphtheria, 12 of which occurred during the recent epidemic. Of these, 11 died of acute heart failure within a few days, 1 made a brave fight, but eventually succumbed to heart failure on the 10th day of the disease. The last made a braver fight, and remained in hospital at the end of the year.

It will appear from the above statistics that Scarlet Fever was light and mild during the year under review. Diphtheria, on the other hand, was prevalent and extremely severe, particularly during the latter half of the period. The number of haemorrhagic cases is exceptionally high, and of those cases that recovered—93 in number—over fifty per cent had paralysis.

DUNSTAN BREWER.

Medical Superintendent.



APPENDIX II.

Borough of Swindon.

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# ANNUAL REPORT

OF THE

Chief Sanitary Inspector,

A. E. BOTTOMLEY,

FOR THE YEAR 1920



*To the Chairman and Members of the Health, &c., Committee.*

LADIES AND GENTLEMEN,

I have much pleasure in submitting my Annual Report of the work done in the Sanitary Department during the year 1920.

In compliance with the requirements of the Ministry of Health, the Report is tabulated, and in such form represents a ready digest of the work carried out.

During the past few years the work of the Department has been carried on under great strain and difficulty, owing to the contingencies of the war, and it has not been possible to have that efficiency which has always been the ambition of the Department. Material and labour are now more easily obtainable, but there is considerable lee-way to make up.

During the period under review, we have had in the Department a discharged soldier as articled pupil. Whilst he was undergoing his training he was a great help in the Department, and it is a pleasure to know that he was successful in obtaining his Certificate under the Royal Sanitary Institute in December, 1920, at his first attempt. He is still continuing his studies, and it is hoped that he will also be successful in obtaining his Meat Certificate.

On perusal of the table dealing with meat and food destroyed it will be noted that the quantity is still very large, but a peculiar feature of this work is the constant dropping off in the quantity seized since the decontrol of meat. One is somewhat at a loss to account for this, but after careful consideration, I feel that there are several factors at work. A universal system of meat inspection is an important matter, and invites attention.

A serious question which will call for the attention of the Committee at an early date is the depreciation of a considerable amount of property in the town. A phrase which has been used in recent legislation, *i.e.* "Reasonably fit for habitation" will have to be closely studied. This phrase, when analysed, involves some very important questions, and if carried to a practical issue, may make a revolution in some of our dwellings. I refer more particularly to the provision of flushing cisterns, facilities for storing food, the defective condition of back yards, the provision of proper receptacles for the storing of refuse, and the construction of shelters immediately at the rear of houses for the keeping of fowls and rabbits.

SANITARY INSPECTOR'S STATISTICS for the year 1920.  
VISITS AND INSPECTIONS.

Infectious Disease	....	....	....	....	318
Contacts with Small-Pox	....	....	....	....	7
Work in course of construction	....	....	....	....	345
Slaughterhouses	....	....	....	....	2439
Bakehouses	....	....	....	....	133
Milkshops, Dairies and Cowsheds	....	....	....	....	209
Markets	....	....	....	....	355
Outworkers	....	....	....	....	215
Common Lodging Houses	....	....	....	....	6
Fried Fish Shops	....	....	....	....	578
Complaints	....	....	....	....	573
Re-visits	....	....	....	....	1225
Miscellaneous	....	....	....	....	850
Workshops	....	....	....	....	427
Ice Cream Shops	....	....	....	....	171
House to House Inspection	....	....	....	....	211
Butchers' Shops	....	....	....	....	507
					<hr/>
					8569

NUISANCES RECORDED.

Defective Drains	....	....	....	....	4
„ Traps	....	....	....	....	14
„ W.C. Cisterns	....	....	....	....	30
„ Floors	....	....	....	....	136
„ Spouts and eaves troughing	....	....	....	....	55
„ Roofs	....	....	....	....	126
„ and dirty W.C. pans	....	....	....	....	49
„ yard paving	....	....	....	....	95
„ fore-courts	....	....	....	....	—
„ Ceilings	....	....	....	....	78
„ Sinks	....	....	....	....	20
„ Walls	....	....	....	....	6
Offensive Animals	....	....	....	....	—
„ Accumulations	....	....	....	....	1
Choked Drains	....	....	....	....	18
Damp Walls	....	....	....	....	9
Overcrowding	....	....	....	....	—
Dirty Rooms	....	....	....	....	275
Miscellaneous	....	....	....	....	641
					<hr/>
					1557

Dairies requiring Limewashing	....	....	....	10
Bakehouses requiring Limewashing	....	....	....	12
Animals taken from the Canal and destroyed	....	....	....	4
Other animals destroyed	....	....	....	9

## DEFECTS IN OUTWORKERS' PREMISES.

W.C. pans cracked	....	....	....	....	2
Defective Roofs	....	....	....	....	3
Dirty Ceilings	....	....	....	....	8
Dirty Rooms	....	....	....	....	19
Defective Iron Grating	....	....	....	....	1
Defective Ceiling	....	....	....	....	1
Broken Sash Cords	....	....	....	....	3
Defective Copper	....	....	....	....	1
Defective Floors	....	....	....	....	3
Defective Flushing Cistern	....	....	....	....	1
Defective Eaves Troughing	....	....	....	....	1
Defective Downspouts	....	....	....	....	2
Defective Paving	....	....	....	....	1
Defective Stair	....	....	....	....	1
Defective Door	....	....	....	....	1
Damp Walls	....	....	....	....	1
Defective Plastering	....	....	....	....	1
TOTAL					50

## DISINFECTANTS.

Number of Applications	....	....	....	377
Number of Applications Granted	....	....	....	377
Quantity given	Fluid	....	47 galls. 1qt. $\frac{1}{2}$ pt.	
	Powder	....	....	84 lbs.

## DISINFECTION.

Cases of Infectious Disease	....	....	....	245
,, Cancer	....	....	....	14
,, Consumption	....	....	....	69
Verminous Rooms	....	....	....	92
Hospital Wards	....	....	....	12
School Rooms	....	....	....	17
Number of Lots of Bedding destroyed	....	....	....	12
Number of Lots of Bedding disinfected	....	....	....	382
School Shawls	....	....	....	40
Library Books disinfected	....	....	....	24
Workshops	....	....	....	19
Number of Lots of Clothing	....	....	....	16



## MEAT AND FOOD DESTROYED

	Tons	Cwts.	Qrs.	Lbs.
23 Carcases of Beef ....	6	14	0	0
Portions of Carcases of Beef ....	2	0	2	16
Carcases of Mutton....		1	2	20
Carcases of Pigs ....		8	0	7
Carcase of Veal ....			1	4
Offal ....	1	16	3	18 $\frac{1}{4}$
Pieces of Mutton ....			1	1
Veal Briskets ....				6
Fish ....		12	1	20
Dates ....		2	2	16
36 tins of tomatoes ....			1	8
100 tins of condensed milk ....			3	6
1 drum skimmed milk ....			1	22
66 tins of fish ....			1	5
Corned beef ....			3	11
13 bottles of pickles ....				13
2 pots of meat paste ....				1
1 tin of pears ....				2
25 baskets of strawberries ....		1	0	23
22 bunches of bananas ....		5	2	0
311 packets of pudding powders, etc.		1	1	20
10 tins of pork and beans ....				10
	12	8	0	5 $\frac{1}{4}$

In conclusion, I feel that there is a period before us which will exercise the energy of the Department to the utmost, and I trust that the Sanitary Department will come through this period creditably and efficiently.

I am, Ladies and Gentlemen,

Your obedient servant,

A. E. BOTTOMLEY,

Chief Sanitary Inspector

Public Health Department,  
61, Eastcott Hill,  
Swindon.

24th May, 1921.

APPENDIX III.

# ANNUAL REPORT OF THE RATS OFFICER FOR 1920.

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LADIES AND GENTLEMEN,

In June, 1920, the Town Council appointed your Chief Sanitary Inspector "Rats Officer" to carry out the duties under the Rats and Mice (Destruction) Act, 1919, and at the same time appointed F. Hedges as Rat Catcher.

This work being an entirely new venture, considerable time was occupied at the commencement in organising and ascertaining information. Your Inspector was under great obligation to Mr. Cuss, one of the Sub-Managers at the Great Western Railway Works, for assisting him in starting the work, and advising the best equipment necessary for dealing with the work. Large posters were exhibited on the different hoardings in the town, and advertisements were inserted in the local press calling the attention of the public to the necessity of taking all precautions to exterminate rats, and all the complaints which have been received have had prompt attention.

The experience obtained since the inception has been varied, and at times very interesting, and I believe very good results have been brought about by the work done. The worst localities for the propagation of the rodents are without doubt the two tips, the Sewage Farms at Rodbourne and Broome and along the banks of the Canal and River Ray. Many blocks of houses have been found to be infested, common causes being defective drains or sewers, defective construction of houses and broken ventilating grids. The methods adopted to clear the pests have been varied. Where drains or sewers have been found at fault a considerable amount of work has been entailed to ascertain the locality of the defects and to make them good when found. In some cases poisons have achieved a clearance, and in others, traps, or dog and ferret have been employed.

A "Rat Week" was held in the Borough in the second week of December, 1920. In some respects it was a fiasco, the only advantage arising being an increased knowledge of the different localities in the Borough where the rats were prevalent.

I am, Ladies and Gentlemen,  
Your obedient servant,

A. E. BOTTOMLEY,

Public Health Department,

Rats Officer.

61, Eastcott Hill,

Swindon.

24th May, 1921.









